

# **GENDER DIFFERENCES IN THE EXPERIENCE OF PSYCHOSIS**

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## **ABSTRACT**

### **Background**

Gender differences in the presentation and course of psychosis are well documented. However, there is a lack of research which examines gender differences in the subjective experience of psychosis at a content level.

### **Aims**

This study aims to explore gender differences in the presentation and the thematic content of psychotic symptoms. In order to contextualise the research findings, the study will also explore additional demographic and causal factors that might explain any gender differences in presentation, including history of substance use and history of abuse.

### **Method**

The electronic medical records of 160 users of Early Intervention for Psychosis Services were comprehensively reviewed. Clinician reports were used to collect quantitative and qualitative data pertaining to symptom presentation. A quantitative analysis of symptom presentation was conducted and a thematic analysis was used to explore themes in the content of psychotic symptoms.

### **Results**

Men experienced a greater number of psychotic symptoms in total, as well as more delusions, negative symptoms and symptoms of thought disorder. Specifically, they were more likely to experience grandiose delusions, hostility, pressure of speech, thought withdrawal and avolition. Women experienced a greater number of hallucinations and were more likely to experience tactile hallucinations. Thematic analysis revealed that men were more likely to experience themes of being attacked or possessing extraordinary powers. Women were more likely to experience themes of people not being who they seem, hearing noises and the feeling of being touched. Further analyses suggested that gender differences in life experience, namely substance use and sexual abuse, may partially explain gender differences in psychotic symptoms and content.

## **Conclusion**

Gender differences exist at both symptom and content levels. Psychotic experiences may be influenced by life experiences and sociocultural expectations of gender. Mental health services should attend to the meaning and content of psychotic symptoms, and to gender differences in the experience of psychosis.

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## CONTENTS

<b>1.</b>	<b>INTRODUCTION .....</b>	<b>1</b>
<b>1.1.</b>	<b>Overview .....</b>	<b>1</b>
<b>1.2.</b>	<b>Note on terminology .....</b>	<b>1</b>
<b>1.3.</b>	<b>Psychosis and ‘schizophrenia’ .....</b>	<b>1</b>
1.3.1.	<u>Reliability and validity of ‘schizophrenia’ .....</u>	1
1.3.2.	<u>Causal explanations of ‘psychosis’ and ‘schizophrenia’ .....</u>	3
1.3.2.1.	Biological explanations .....	3
1.3.2.2.	Epigenetics .....	4
1.3.2.3.	Psychological processes .....	4
1.3.2.4.	Adverse life events .....	5
1.3.2.5.	Childhood adversity .....	6
1.3.2.6.	Substance use .....	8
1.3.2.7.	Biopsychosocial explanations .....	9
1.3.3.	<u>Mainstream services for psychosis and ‘schizophrenia’ .....</u>	9
1.3.3.1.	Antipsychotic medication .....	10
1.3.3.2.	Cognitive Behavioural Therapy .....	10
1.3.3.3.	Family Intervention .....	11
1.3.3.4.	Third Wave Therapies .....	11
1.3.3.5.	Early Intervention in Psychosis Services .....	12
1.3.3.6.	Open Dialogue .....	13
1.3.3.7.	Hearing Voices Movement .....	13
<b>1.4.</b>	<b>Literature Review: Gender differences in psychosis ....</b>	<b>13</b>
1.4.1.	<u>Terminology .....</u>	13
1.4.2.	<u>Literature search strategy .....</u>	14
1.4.3.	<u>Prevalence .....</u>	15
1.4.4.	<u>Age of onset .....</u>	15
1.4.5.	<u>Duration of untreated psychosis (DUP) .....</u>	16
1.4.6.	<u>Diagnosis .....</u>	16
1.4.7.	<u>Cognitive functioning .....</u>	16
1.4.8.	<u>Social functioning .....</u>	17
1.4.9.	<u>Course and outcome .....</u>	18
1.4.10.	<u>Medication use and response .....</u>	19
1.4.11.	<u>Engagement with services .....</u>	19

1.4.12.	<u>Symptom presentation</u> .....	20
1.4.12.1.	Positive and negative symptom differences .....	20
1.4.12.2.	Differences in types of positive symptoms .....	21
1.4.13.	<u>Content of psychotic experiences</u> .....	21
1.14.3.1.	Gender differences in delusional themes .....	22
1.14.3.2.	Gender differences in themes of hallucinations .....	24
<b>1.5.</b>	<b>Explanations of gender differences</b> .....	<b>24</b>
1.5.1.	<u>Abuse and psychosis</u> .....	24
1.5.1.1.	Gender differences in prevalence of abuse .....	24
1.5.1.2.	Specific abuse leading to specific symptoms .....	25
1.5.1.3.	Autobiographical content of psychosis .....	26
1.5.2.	<u>Substance use and psychosis</u> .....	28
1.5.2.1.	Gender differences in substance use .....	28
1.5.2.2.	Relationship between substance use and adverse life experiences .....	28
1.5.3.	<u>Gender roles</u> .....	29
<b>1.6.</b>	<b>Research and clinical implications</b> .....	<b>30</b>
<b>1.7.</b>	<b>Aims of current study</b> .....	<b>31</b>
<b>2.</b>	<b>METHOD</b> .....	<b>32</b>
<b>2.1.</b>	<b>Overview</b> .....	<b>32</b>
<b>2.2.</b>	<b>Ethical issues</b> .....	<b>32</b>
2.2.1.	<u>Ethical approval</u> .....	32
2.2.2.	<u>The Clinical Record Interactive Search System</u> .....	32
2.2.3.	<u>Confidentiality of data</u> .....	32
2.2.4.	<u>Consent</u> .....	33
<b>2.3.</b>	<b>Epistemological position</b> .....	<b>33</b>
<b>2.4.</b>	<b>Design</b> .....	<b>34</b>
<b>2.5.</b>	<b>Participants</b> .....	<b>34</b>
2.5.1.	<u>Inclusion and exclusion criteria</u> .....	35
<b>2.6.</b>	<b>Materials</b> .....	<b>35</b>
<b>2.7.</b>	<b>Procedure</b> .....	<b>36</b>
2.7.1.	<u>Inter-rater reliability</u> .....	37
<b>2.8.</b>	<b>Approach to analysis</b> .....	<b>38</b>
2.8.1.	<u>Statistical analysis</u> .....	38

2.8.2	<u>Thematic analysis</u> .....	39
2.8.2.1.	Data collection .....	40
2.8.2.2.	Phase one: Familiarisation with the data .....	40
2.8.2.3.	Phase two: Coding .....	40
2.8.2.4.	Phase three: Searching for themes .....	40
2.8.2.5.	Phase four: Reviewing themes .....	41
2.8.2.6.	Phase five: Defining and naming themes .....	41
2.8.2.7.	Inter-rater reliability .....	41
2.8.3.	<u>Statistical analysis of gender differences in themes</u> .....	42
<b>3.</b>	<b>RESULTS</b> .....	<b>43</b>
<b>3.1.</b>	<b>Overview</b> .....	<b>43</b>
<b>3.2.</b>	<b>Participant characteristics</b> .....	<b>43</b>
<b>3.3.</b>	<b>Research question: Do men and women experience different types of psychotic symptoms?</b> .....	<b>45</b>
3.3.1.	<u>Gender differences in number of symptoms</u> .....	45
3.3.2.	<u>Gender differences in specific types of symptoms</u> .....	47
<b>3.4.</b>	<b>Research question: Do demographic factors, including a history of abuse and substance use, account for any differences in presentation between men and women?</b>	<b>50</b>
3.4.1.	<u>Gender differences in histories</u> .....	50
3.4.2.	<u>Gender differences in relationship between histories and symptoms</u> .....	51
3.4.2.1.	Relationships that held for both genders .....	53
3.4.2.2.	Relationships that held for men but not women .....	53
3.4.2.3.	Relationships that held for women but not men .....	54
<b>3.5.</b>	<b>Research question: Does the content of psychotic experiences differ for men and women?</b> .....	<b>54</b>
3.5.1.	<u>Themes and sub-themes of psychotic symptoms</u> .....	54
3.5.2.	<u>Themes more common for men</u> .....	58
3.5.2.1.	Special powers or abilities .....	58
3.5.2.2.	Being harmed, attacked or killed (non-specific) .....	59
3.5.3.	<u>Themes more common for women</u> .....	59
3.5.3.1.	Pregnancy .....	59
3.5.3.2.	Tactile hallucinations .....	60

3.5.3.3.	Tactile hallucination of being touched .....	60
3.5.3.4.	People are not who they seem .....	60
3.5.3.5.	Hearing noises .....	60
3.5.4.	<u>Non-significant trends</u> .....	61
<b>4.</b>	<b>DISCUSSION.....</b>	<b>62</b>
<b>4.1.</b>	<b>Overview .....</b>	<b>62</b>
<b>4.2.</b>	<b>Study aims .....</b>	<b>62</b>
<b>4.3.</b>	<b>Sample characteristics .....</b>	<b>62</b>
<b>4.4.</b>	<b>Research question: Do men and women present with different psychotic symptoms? .....</b>	<b>63</b>
4.4.1.	<u>Total symptoms</u> .....	63
4.4.2.	<u>Delusions</u> .....	64
4.4.3.	<u>Hallucinations</u> .....	64
4.4.4.	<u>Thought disorder</u> .....	65
4.4.5.	<u>Negative symptoms</u> .....	65
<b>4.5.</b>	<b>Research question: Does the content of psychotic experiences differ for men and women? .....</b>	<b>66</b>
4.5.1.	<u>Content of psychotic experiences in men</u> .....	67
4.5.1.1.	Being attacked, harmed or killed .....	67
4.5.1.2.	Special powers or abilities .....	67
4.5.1.3.	Everything is a movie/ game/ simulation.....	68
4.5.1.4.	Unfaithfulness .....	70
4.5.1.5.	Voices that make derogatory comments about their sexuality .....	70
4.5.2.	<u>Content of psychotic experiences in women</u> .....	71
4.5.2.1.	People are not who they seem .....	71
4.5.2.2.	Pregnancy .....	73
4.5.2.3.	Hearing noises .....	74
4.5.2.4.	Tactile hallucinations .....	74
4.5.2.5.	A feeling of being touched .....	74
4.5.2.6.	Devil, demon or spirit is controlling them .....	75
4.5.2.7.	Seeing images of death or blood .....	75



<b>4.6.</b>	<b>Research question: Do demographic factors, including a history of abuse and substance use, account for any differences in presentation between men and women? .....</b>	<b>76</b>
4.6.1.	<u>Gender differences in histories .....</u>	76
4.6.1.1.	Substance use .....	76
4.6.1.2.	Sexual abuse .....	76
4.6.2.	<u>Gender differences in relationships between histories and symptoms .....</u>	77
4.6.2.1.	Association between childhood sexual abuse and hallucinations .....	78
4.6.2.2.	Association between substance use and positive symptoms .....	80
<b>4.7.</b>	<b>Strengths and limitations of the study .....</b>	<b>81</b>
4.7.1.	<u>Gender analysis of content .....</u>	81
4.7.2.	<u>Sample size .....</u>	82
4.7.3.	<u>Mixed methodology .....</u>	82
4.7.4.	<u>Indirect source of information .....</u>	83
4.7.4.1.	Recording of symptoms .....	83
4.7.4.2.	Recording of abuse histories .....	83
4.7.5.	<u>The problem of false positives .....</u>	84
4.7.5.1.	<i>Multiple comparisons problem .....</i>	84
4.7.5.2.	<i>Statistical power .....</i>	85
4.7.5.3.	<i>Clinical significance .....</i>	85
4.7.6.	<u>Difficulty categorising .....</u>	86
4.7.7.	<u>Gender dichotomy .....</u>	87
4.7.8.	<u>Other explanatory factors .....</u>	87
<b>4.8.</b>	<b>Implications for research .....</b>	<b>88</b>
4.8.1.	<u>Gender analysis .....</u>	88
4.8.1.1.	<i>Beyond gender differences .....</i>	88
4.8.2.	<u>Complaint-orientated approach .....</u>	89
<b>4.9.</b>	<b>Implications for practice .....</b>	<b>90</b>
4.9.1.	<u>Different treatment needs for men and women .....</u>	90
4.9.2.	<u>Content is meaningful .....</u>	91
4.9.3.	<u>Adverse life experiences .....</u>	92

<b>4.10.</b>	<b>Reflective review .....</b>	<b>93</b>
<b>4.11.</b>	<b>Conclusions .....</b>	<b>94</b>
<b>5.</b>	<b>REFERENCES .....</b>	<b>95</b>
<b>6.</b>	<b>APPENDICES .....</b>	<b>130</b>

## LIST OF TABLES

Table 1.	Participant characteristics
Table 2.	Number of symptoms experienced
Table 3.	Types of psychotic symptoms experienced
Table 4.	Histories of substance use and abuse
Table 5.	Relationship between abuse history and psychotic symptoms, with relation to gender
Table 6.	Summary of themes and sub-themes

## **LIST OF ABBREVIATIONS**

Below is a list of the most commonly used abbreviations in the current study.

DSM-5	Diagnostic and Statistical Manual of Mental Disorders (5 <sup>th</sup> Edition)
NICE	National Institute of Clinical Excellence
NHS	National Health Service
CBT	Cognitive Behavioural Therapy
CBTp	Cognitive Behavioural Therapy for Psychosis
Fip	Family Intervention for Psychosis
EIPS	Early Intervention for Psychosis Service
DUP	Duration of untreated psychosis
PANSS	Positive and Negative Symptom Scale
ICD-10	International Statistical Classification of Diseases (10 <sup>th</sup> Edition)
TD	Tardive dyskinesia
CRIS	Clinical Record Interactive Search system

## **LIST OF APPENDICES**

- Appendix 1. Letter of HRA Approval
- Appendix 2. Fields included in the data collection sheet
- Appendix 3. Gender differences in the number of symptoms experienced
- Appendix 4. Gender differences for specific psychotic symptoms
- Appendix 5. Gender differences in histories of substance use and abuse
- Appendix 6. Gender differences in the content of psychotic experiences
- Appendix 7. Thematic analysis with definitions and examples

# **1. INTRODUCTION**

## **1.1. Overview**

This chapter will review the literature on psychosis and ‘schizophrenia’, including contemporary understandings of the development of psychosis and mainstream treatments within the NHS. A literature review is presented which details the gender differences that have been observed in psychosis to date. A rationale for the study’s aims and research questions are provided.

## **1.2. Note on terminology**

As many of the terms used throughout this thesis are contested in the fields of research and clinical practice, I will first comment on the way in which topics will be referred to. I have used the terms ‘psychosis’ and ‘schizophrenia’ throughout. Though the reliability and validity of diagnostic terms such as ‘schizophrenia’ have been widely disputed, the terms have been included in this thesis, and in the review of existing literature, in reflection of their common usage in research and clinical practice and the need to ensure the inclusion of all relevant literature.

## **1.3. Psychosis and ‘schizophrenia’**

### **1.3.1. Reliability and validity of ‘schizophrenia’**

Traditionally, ‘schizophrenia’ has been understood in terms of the medical model of mental distress. ‘Schizophrenia’ is considered a genetically-based disease of the brain, which can be observed and diagnosed and therefore treated. However, criticisms of the concept of ‘schizophrenia’ as a valid, reliable and identifiable construct are well documented (Read, 2013).

Reliability refers to the extent to which a finding is consistent. In psychiatry, this refers to the extent to which psychiatrists make the same diagnosis when independently assessing service users i.e. inter-rater reliability. The reliability of diagnoses of ‘schizophrenia’ have been demonstrated to be low, with most

studies investigating inter-rater reliability of diagnosis failing to achieve the Kappa level of 0.7 considered indicative of good agreement (Bentall, 2009; Cheniaux, Landeira-Fernandez, & Versiani, 2009).

Validity refers to the extent to which a concept is logically or factually sound i.e. whether it is correlated with, or predicts, variables that it should theoretically be related to. The validity of psychiatric diagnosis, in particular 'schizophrenia', has been questioned. The diagnosis of 'schizophrenia' has been described as conceptually weak and tautological. Symptoms used to warrant a diagnosis are then explained by the diagnosis (Pilgrim, 2005). Claims have been made that the diagnosis of 'schizophrenia' is unfit for practice and scientific research as it is a "disjunctive category" (Bannister, 1968, p.181). As a diagnosis of 'schizophrenia' is made based on the presence of two out of five characteristics, it is possible for two individuals who do not share any experiences to both be given the same diagnosis. A further challenge to the validity of the diagnosis of 'schizophrenia' is the high rates of comorbidity with other psychiatric disorders. Estimates suggest that 50% of patients diagnosed with 'schizophrenia' are also diagnosed with depression, 29% with post-traumatic stress disorder and 23% with obsessive compulsive disorder (Buckley, Miller, Lehrer, & Castle, 2009).

Recent research has suggested that, instead of being a discrete illness, experiences labelled as psychosis and 'schizophrenia' lie on a continuum with normal behaviours and experiences (van Os, Hanssen, Bijl, & Ravelli, 2000). Research studies have shown that the 'normal' population score highly on measures of apparently irrational phenomena or abnormal beliefs (Peters, Joseph, Day, & Garety, 2004). There is also increasing evidence which demonstrates that psychotic experiences, including delusional beliefs, vary in their conviction and are open to change (Chadwick, Birchwood, & Trower, 1996; Garety, 1985).

On the basis of recent research findings, there is a movement in psychological research from a diagnosis-based approach to a 'complaint-orientated' approach (Bentall, 2005) where individuals' specific experiences, such as voice hearing, are examined rather than grouping individuals on the basis of flawed diagnostic labels.

### 1.3.2. Causal explanations of 'psychosis' and 'schizophrenia'

#### 1.3.2.1 *Biological explanations*

Biomedical understandings of the development of psychosis are central in contemporary mental health services. In a survey of 2,813 psychiatrists in the UK, 46.1% believed that the causes of 'schizophrenia' are "primarily biological" while only 0.4% believe the causes to be "primarily social" (Kingdon, Sharma, & Hart, 2004).

Evidence for the heritability of 'schizophrenia', and therefore the causal role of genetics in its development, comes from family and twin studies. Early studies demonstrated that first-degree relatives of those diagnosed with 'schizophrenia' were 18 times more likely to receive a diagnosis of 'schizophrenia' themselves than the general population (Kendler, Masterson, & Davis, 1985). While the prevalence of 'schizophrenia' in the general population is 1% across cultures, recent twin studies have demonstrated concordance rates of 23.2% for monozygotic twins and 4.9% for dizygotic twins (Joseph, 2013). However, the methodologies of these studies, and of subsequent molecular genetic studies, have been comprehensively critiqued (Joseph, 2013).

A key biological theory is the dopamine hypothesis, which posits that individuals with 'schizophrenia' have an excess of dopamine, a neurotransmitter involved in the transmission of impulses in the brain. This causes neurones to fire too often, leading to psychotic symptoms. However, the dopamine hypothesis is critiqued for being derived from indirect evidence. One of the effects of sedating drugs prescribed in the 1950s was a reduction in dopamine activity. As these drugs blocked dopamine receptors, and were associated with reduced symptoms, it was assumed that the cause of 'schizophrenia' must be over-activity of the dopamine system. There has, however, been no conclusive evidence for the hypothesis. The hypothesis is further undermined by the fact that newer, atypical antipsychotics produce comparable symptom reductions while having relatively low dopamine blocking activity (Moncrieff, 2009).

A further argument for biomedical causes of 'schizophrenia' is the observation of abnormally large ventricles (McCreadie, Thara, Padmavati, Srinivasan, &



Jaipurkar, 2002) and significantly lower brain volume (Gur, Turetsky, Bilker, & Gur, 1999) in individuals with 'schizophrenia'. However, studies have been critiqued for failing to acknowledge the role of antipsychotic medication in structural brain changes (Navari & Dazzan, 2009; Weinmann & Aderhold, 2010). Furthermore, studies have failed to acknowledge the impact of early childhood trauma on brain structure. It has been shown that childhood trauma is associated with ventricular enlargement, cerebral atrophy and dysfunction of the limbic system (Read et al., 2001).

#### 1.3.2.2. *Epigenetics*

More recent research has implicated the role of epigenetics in the development of psychosis, whereby relevant genes are switched on or off as a result of the environment. The idea that an individual's genes may be switched on or off as a result of their life experiences may perhaps be a more productive and integrative approach to understanding the role of genes as a contributing factor to the development of psychosis (Read, Bentall, & Fosse, 2009).

#### 1.3.2.3. *Psychological explanations*

Cognitive models suggest that psychotic symptoms develop when a triggering event gives rise to disrupted cognitive processes (Garety & Hemsley, 1994). Cognitive models theorise that psychotic symptoms arise when unusual or anomalous experiences, accompanied by emotional changes, are appraised in ways that position the experience as external (Garety, Kuipers, Fowler, Freeman, & Bebbington, 2001; Morrison, 2001). Individuals with dysfunctional schemas, as a result of adverse life events, low self-esteem (Freeman et al., 1998) or negative self-concepts (Close & Garety, 1998) are more likely to make external appraisals of unusual experiences. A range of cognitive biases have been implicated in the development of delusional beliefs in psychosis, including jumping to conclusions and dichotomous thinking (Garety, Hemsley, & Wessely, 1991; Peters et al., 2014) and that these biases are amplified when individuals are experiencing emotional stress (Lincoln, Lange, Burau, Exner, & Moritz, 2010).

Another theory of the development of delusions, specifically persecutory delusions, is the attribution-self-representation cycle (Bentall, Corcoran,

Howard, Blackwood, & Kinderman, 2001). This suggests that attribution biases cause individuals to attribute negative events to external agents, which builds a paranoid world view. It is hypothesised that this process has a protective value in guarding the individual against feelings of low self-esteem.

Auditory hallucinations might be explained by the source monitoring hypothesis. Auditory hallucinations are thought to be closely linked to inner speech and that individuals who hear voices do so after misattributing their own inner speech to an external source (Bentall, 1990). Several signal detection studies have shown that participants who experience hallucinations show an abnormal bias for detecting noise signals (Barkus, Stirling, Hopkins, McKie, & Lewis, 2007) and that individuals who experience hallucinations tend to be poorer at recognising their own voice compared to controls, (Waters, Woodward, Allen, Aleman, & Sommer, 2012).

#### 1.3.2.4. *Adverse life events*

A rapidly increasing body of evidence now demonstrates the causal role of life adversity on the development of psychosis, including maltreatment and abuse in childhood as well as the experience of negative life events and discrimination in adulthood (Read, van Os, Morrison, & Ross, 2005).

Poverty is strongly related to diagnoses of 'schizophrenia' (Read, Johnstone, & Taitimu, 2013). A study of British children found that those raised in economic deprivation were seven times more likely to develop 'schizophrenia', even when controlling for the effects of a family history of psychosis (Harrison, Gunnell, Glazebrook, Page, & Kwiecinski, 2001). It is understood that relative poverty, measured by comparing the incomes of the top 10% and bottom 10% in a society, is particularly damaging and that rates of 'severe mental illness' are five times higher in the most unequal societies compared to the least unequal societies (Wilkinson & Pickett, 2009).

Ethnicity is also predictive of diagnoses of 'schizophrenia'. Higher rates of 'schizophrenia' are found in ethnic minorities across a range of countries, including the UK (Fernando, 2003). Though arguments of selective migration and migratory stress have been proposed (Cochrane & Bal, 1987), studies have

demonstrated that the risk of developing mental health problems is increased for second generation immigrants (Cantor-Graae & Selten, 2005). This suggests that factors such as racist misdiagnosis (Read et al., 2013), discrimination, financial disadvantage and social isolation are involved (Janssen et al., 2003; Mallett, Leff, Bhugra, Pang, & Zhao, 2002).

The experience of physical and sexual assault is also implicated in the development of psychosis and 'schizophrenia'. Studies from inpatient and outpatient settings have demonstrated a high prevalence of victimisation and assault in people with mental health problems (Goodman et al., 2001; Read et al., 2005). Cascardi, Mueser, DeGiralomo, and Murrin (1996) found that 63% of inpatients experienced violence by partners in the year prior to admission, and 46% experienced violence from family members. Furthermore, the majority of female patients and roughly 25% of male patients report sexual assault as an adult (Read, 2013).

#### 1.3.2.5. *Childhood adversity*

Understandings of the significant role of childhood adversity, including maltreatment and abuse, in the development of psychosis has expanded dramatically in recent years. In their review of the earlier literature, Read et al. (2005) identified ten studies which demonstrated that individuals abused as children gained higher scores on measures of psychosis. In a review of 100 individuals with psychosis or 'schizophrenia', Corstens and Longden (2013) found that at least one adverse childhood event was reported by 89% of the sample. A more recent large-scale meta-analysis, which reviewed the role of sexual abuse, physical abuse, emotional abuse, neglect, bullying and parental death, confirms that individuals who experienced childhood adversity were 2.8 times more likely to develop psychosis (Varese et al., 2012). A 'dose-response' relationship has been found in numerous studies, whereby individuals who experience a greater severity of abuse or a greater number of abuses in childhood are at a higher risk of developing psychosis (Janssen et al., 2004; Shevlin, Dorahy, & Adamson, 2007). Previous research demonstrates that individuals abused as children are 9.3 times more likely to develop psychosis, and that this risk increases to 48 times when considering the most severe kinds of abuse (Janssen et al., 2004). Furthermore, individuals who have experienced

three kinds of abuse are 18 times more likely to develop psychosis, while those who have experienced five types of abuse are 193 times more likely to develop psychosis (Shevlin et al., 2007).

One powerful predictor of psychosis is childhood sexual abuse. In a study which examined the incidence of early traumatic life events across mental health problems, Friedman et al. (2002) found that 78% of individuals diagnosed with 'schizophrenia' had suffered child sexual abuse. This was a significantly larger proportion than those with other mental health problems such as depressive disorder (42%) or anxiety disorder (30%). A meta-analysis of existing literature concluded that individuals who had been sexually abused as children were more likely to be psychotic later in life with odds ratios ranging from 1.4 to 9.7 (Varese et al., 2012). It is estimated that individuals with psychosis are three times more likely to have experienced childhood sexual abuse than individuals with other mental health diagnoses and 15 times more likely to have been sexually abused than individuals in the general population (Bebbington et al., 2004).

The experience of physical abuse in childhood is also associated with the development of psychosis. Varese et al. (2012) report that individuals physically abused as children are more likely to become psychotic, with odds ratios ranging from 1.5 to 9.4. The impact of physical abuse is greater when inflicted at a younger age, with odds ratios increasing from 2.4 to 3.5 if the abuse began before the age of 7 (Arseneault et al., 2011). Increased risk remains even when accounting for poverty and genetic risk factors (Arseneault et al., 2011).

Less researched is the role of emotional abuse on the development of psychosis. Varese et al. (2012) report that a history of emotional abuse is more common in people who have later developed psychosis with odds ratios ranging from 1.4 to 12.2. In a study examining history of abuse in 74 individuals who hear voices, 62% report childhood emotional abuse (Connor & Birchwood, 2012).

The rates of neglect in groups of individuals with psychosis vary depending on the definition used. In their study of individuals who hear voices, Connor and

Birchwood (2012) found that 65% had experienced physical neglect and 77% had experienced emotional neglect during childhood. Varese et al. (2012) combined physical and emotional abuse and found odds ratios ranging from 1.1 to 8.4, with one study reviewed estimating that individuals who were seriously neglected as children were 8.4 times more likely to meet diagnostic criteria for psychotic disorders in adulthood (Mark Shevlin, Dorahy, et al., 2007).

An additional adverse life event less often described in the literature is childhood bullying. In their meta-analysis, Varese et al. (2012) found that individuals who had been bullied as children were more likely to develop psychosis. One study included in the review demonstrated that teenagers who had been bullied were 2.4 times more likely to be experiencing psychotic experiences than their peers (Nishida et al., 2008).

#### 1.3.2.6. *Substance use*

It has been estimated that substance use among individuals with first episode psychosis is up to twice that of the general population (Barnett et al., 2007). A recent review of 141 patients with a first episode of psychosis found that 58.9% were using substances to a degree defined as problematic (Crosas et al., 2017).

A key study, which reviewed 45,570 Swedish army veterans, found that the risk of developing 'schizophrenia' was 2.4 times higher among those who had used cannabis by the age of 18 compared to those who had not used cannabis. Furthermore, the study found a 'dose-response' relationship whereby the risk of developing 'schizophrenia' increased to 6 times in heavy cannabis users (Andréasson, Engström, Allebeck, & Rydberg, 1987). Numerous studies have since replicated the finding that heavy cannabis use is associated with an increased risk of psychosis (e.g. Green, Young, & Kavanagh, 2005; Henquet et al., 2005; van Os et al., 2002).

Cannabis use is associated with a range of poor outcomes including increased relapse and disengagement from treatment (Zammit et al., 2008), as well as increased rates of psychotic symptoms (Caspari, 1999; Degenhardt et al., 2007; Grech, Van Os, Jones, Lewis, & Murray, 2005), particularly thought disturbance

and hostility (Caspari, 1999). Although there is evidence that cannabis exposure is associated with a decline in cognitive performance in the general population (Fried, Watkinson, & Gray, 2005), these findings have failed to be consistently replicated in patient samples (Hanna et al., 2016).

It is noted that there is robust evidence that for some people the relationship between cannabis and psychosis is explained by child abuse, whereby cannabis use is an attempt to self-medicate for the negative effects of child abuse (Houston, Murphy, Adamson, Stringer, & Shevlin, 2008).

#### 1.3.2.7. *Biopsychosocial explanations*

There is growing agreement that psychosis occurs as a result of a complex interplay of biological, psychological and social factors. The Stress Vulnerability Model (Zubin & Spring, 1977) proposes that biological vulnerability (e.g. genetic predisposition and biochemical abnormalities) and psychological vulnerability (e.g. cognitive biases) contribute to the development of psychosis. It further proposes that vulnerability may be acquired as a result of trauma, family experiences and other life events. As stress levels increase, individuals who are more vulnerable are more likely to experience psychotic symptoms. Stress may include sources of physical stress (e.g. drug use), environmental stress (e.g. social isolation), emotional stress (e.g. relationship problems) and acute life events (e.g. bereavement).

However, it has been suggested that the model has been distorted to favour biological understandings of psychosis. It is argued that the model is often used to emphasise genetic predisposition in the development of psychosis, while positioning psychosocial factors as mere triggers or exacerbating factors, despite a continued failure to establish robust evidence for genetic causal factors (Read et al., 2009).

#### 1.3.3. Mainstream services for psychosis and 'schizophrenia'

Current treatment approaches for psychosis and 'schizophrenia' include medical and psychological interventions. The NICE Guidelines for psychosis and 'schizophrenia' recommend antipsychotic medication in conjunction with

psychological interventions for any individual experiencing their first episode of psychosis (NICE, 2014).

#### 1.3.3.1. *Antipsychotic medication*

In accordance with the medical model of psychosis, which posits psychosis and 'schizophrenia' as diseases of the brain, antipsychotic medication is used as the first line treatment for first episode psychosis. Antipsychotic medication is prescribed with the aim of eliminating or reducing psychotic symptoms.

Antipsychotic medication is used extensively within mental health services, in an estimated 85% of inpatient cases (Paton et al., 2003).

However, current prescription practices fail to acknowledge the range of severe and non-reversible side effects of antipsychotic medication (Hutton, Weinmann, Bola, & Read, 2013). Adverse effects include weight gain, dry mouth, tremors, rigidity, tardive dyskinesia and tachycardia (Hutton et al., 2013) as well as increased risk of cardiovascular and metabolic diseases such as diabetes (Read & Bentall, 2013). The use of antipsychotic medication is associated with premature death (Hutton et al., 2013) as well as cognitive and emotional effects such as mental slowing and emotional indifference (Moncrieff, Cohen, & Mason, 2009).

Furthermore, the effectiveness of antipsychotic medications is often over-estimated. Robinson et al. (2006) report that 46% of patients prescribed Risperidone and 56% prescribed Olanzapine failed to respond after four months. It is estimated that 50% of patients experience persistent symptoms despite continued use of antipsychotic medication (Stroup, Lieberman, Swartz, & McEvoy, 2000) and 28% relapse into further psychotic episodes (Leucht et al., 2012).

#### 1.3.3.2. *Cognitive Behavioural Therapy*

Cognitive Behavioural Therapy (CBT) is the most commonly used psychological therapy in the treatment of a range of mental health problems (Field, Farnsworth, & Nielsen, 2015). Its application to psychosis, in the form of CBT for psychosis (CBTp) is a NICE recommended treatment for people diagnosed with psychosis and 'schizophrenia' (NICE, 2014). CBTp is based on cognitive

models of psychosis which suggest that appraisals are central in the development of psychosis (Bentall et al., 2001; Garety et al., 2001; Morrison, 2001). It makes the assumption that a person's interpretation of events can influence the way that they think, feel and behave and relies on the principles of collaboration, normalisation and therapeutic alliance.

Randomised controlled trials have demonstrated that CBTp is associated with a reduction in psychotic symptoms, as well as high satisfaction ratings and low dropout rates (Kuipers et al., 1997; Lewis et al., 2002). Large-scale meta-analyses have demonstrated that CBTp is effective in improving mental state (Pilling et al., 2002), reducing positive and negative psychotic symptoms, reducing social anxiety, and improving mood and functioning (Wykes, Steel, Everitt, & Tarrier, 2008).

#### 1.3.3.3. *Family Intervention*

NICE Guidelines also recommend Family Intervention in the treatment of people with psychosis and 'schizophrenia' (NICE, 2014). Family intervention for psychosis (Flp) is based on the systemic principle that the person with psychosis exists within a context and therefore effective interventions should consider the relationships of the service user. Flp is informed by an established body of research on expressed emotion, which demonstrates that high expressed emotion in a family (including critical comments, emotional over-involvement and hostility) is correlated with higher rates of relapse (Kuipers & Bebbington, 1988). A meta-analysis of studies of family interventions in first episode psychosis showed that participants engaging in family interventions were less likely to relapse or be admitted to hospital compared to those receiving treatment as usual (Bird et al., 2010; Pilling et al., 2002).

#### 1.3.3.4. *Third Wave Therapies*

Third wave cognitive and behavioural therapies are an emerging group of therapies informed by both the CBT model and traditional Eastern approaches such as Buddhism. Approaches such as mindfulness, Acceptance and Commitment Therapy and Compassion Focussed Therapy are increasingly used with a range of psychological difficulties (Hunot et al., 2013). There is an emerging evidence base for the use of these third wave approaches with



psychosis, particularly Compassion Focussed Therapy, which addresses issues of shame and self-criticism (Abba, Chadwick, & Stevenson, 2008; Bach & Hayes, 2002; Mayhew & Gilbert, 2008).

#### 1.3.3.5. *Early Intervention in Psychosis Services*

NICE Guidelines recommend that all individuals experiencing a first episode of psychosis are referred to a specialist Early Intervention for Psychosis Service (EIPS), and begin treatment within two weeks of referral (NICE, 2015). EIPS are based on the critical period hypothesis, which posits that the early phase of psychosis is critical in the development of the disorder. This is based on studies which have demonstrated that the progression of psychosis often stabilises after two years (Birchwood, Todd, & Jackson, 1998; Thara, Henrietta, Joseph, Rajkumar, & Eaton, 1994). EIPS are also informed by research which has demonstrated a close link between the duration of untreated psychosis (DUP) and the course of psychosis (Birchwood et al., 1998). DUP has been shown to be a strong predictor of relapse, with those whose DUP is in excess of one year being at three times the risk of relapse compared to those who accessed treatment sooner (Johnstone, Crow, Johnson, & MacMillan, 1986).

EIPS aim to provide young people with a first episode of psychosis access to timely, evidence-based treatment, thereby reducing the length of DUP and increasing the likelihood of positive outcomes (NICE, 2015). Interventions are provided by a multidisciplinary team based in the community with a focus on assertive engagement, recovery and the ethos of hope (NHS England, 2016).

Though criticised for being a disproportionate use of resources without sufficient empirical evidence (Pelosi & Birchwood, 2003), a recent meta-analysis of randomised controlled trials concluded that EIPS are associated with reduced hospital admissions, rates of relapse, symptom severity as well as improved access to and engagement with treatment (Bird et al., 2010). The OPUS randomised controlled trial, comparing Danish EIPS with treatment as usual, showed that EIPS service users have better outcomes in terms of positive and negative symptoms and global functioning after two years (Petersen et al., 2005).

#### 1.3.3.6. *Open Dialogue*

Open Dialogue is an approach developed in Western Lapland, which has very positive results for individuals with first episode psychosis. Based on systemic principles, the approach involves holding 'network meetings' bringing together the individual in distress, their family and any professionals involved. Based on an assumption that psychotic experiences are meaningful, the network is helped to develop a shared understanding with an emphasis on the client's own words and stories, rather than on symptoms. The approach is non-hierarchical and advocates shared decision-making. The approach has been associated with very positive results, including reductions in psychotic symptoms, hospital admissions and antipsychotic medication and increased return to work (Seikkula et al., 2006). Several NHS Trusts have trained staff to deliver this approach and are beginning to offer Open Dialogue services to first episode psychosis populations (Razzaque & Stockmann, 2016).

#### 1.3.3.7. *Hearing Voices Movement*

The Hearing Voices Network is a service-user, survivor-led movement, which questions the dominance of professional perspectives of psychosis, including biomedical understandings, and promotes the perspectives of experts by experience. Driven by the research of Romme and Escher (1989), which highlights the relevance of life experiences in the development of psychosis, the Hearing Voices Movement conceptualises hearing voices as a significant, meaningful and interpretable response to life events (Corstens, Longden, McCarthy-Jones, Waddingham, & Thomas, 2014). It argues that recovery lies in individuals understanding their voices in relation to their life experience and changing their relationship with them so that they ultimately become less threatening and harmful.

### **1.4. Literature Review: Gender differences in psychosis**

#### 1.4.1. Terminology

The terms 'sex' and 'gender' are often used interchangeably, however for the purposes of research a distinction is made between the two. 'Sex' refers to a person's biological status as male or female based on anatomical characteristics, namely their reproductive systems (Diamond, 2002). 'Gender'

refers to the socially constructed roles and cultural expectations associated with members of different sexes (Newman, 2002). Contemporary understandings suggest that 'sex' is a fixed, biologically determined construct, whereas 'gender' is socially constructed and therefore influenced by time and context (Diamond, 2002).

Men and women hold different positions in society (Boyle, 1997) and are associated with disparate characteristics on the basis of culturally accepted gender norms. For example, characteristics traditionally seen to be desirable in men include aggression, physical strength, emotional detachment and goal orientation. Contrastingly, attributes associated with women include sensitivity, empathy, passivity and beauty (Girshick, 2008). Notions of masculinity and femininity are inherent in society and contribute to a set of behaviours, attitudes and personality traits that are expected from a person on the basis of their gender (Golombok & Fivush, 1994).

For the purposes of this study, the term 'gender' will be used throughout to account for the social and cultural influences which act on men and women, and which are considered relevant to the expression of psychological distress including psychosis.

#### 1.4.2. Literature search strategy

A database search was conducted using PsycINFO, PsycArticles and CINAHL Plus, Science Direct and Scopus. The search terms used were 'gender differences', 'sex differences', 'psychosis', 'schizophrenia', 'delusions' and 'hallucinations'. Additional searches were conducted of the grey literature using Google Scholar and the open source repository, ResearchGate. The reference lists of identified articles were also searched to locate relevant publications in an effort to provide an expansive review of the literature.

Gender differences in psychosis and 'schizophrenia' are consistently reported and have been described as "one of the most consistently reported aspects of the disease" (Abel, Drake, & Goldstein, 2010, p.417). Gender differences have been described in almost all features including prevalence, age of onset,

symptom presentation, course and outcome (Abel et al., 2010). The following narrative review attempts to synthesise the literature identified.

#### 1.4.3. Prevalence

It has been consistently reported that psychosis and 'schizophrenia' is more common in men than women (Ochoa, Usall, Cobo, Labad, & Kulkarni, 2012). A meta-analysis has estimated that incidence risk ratios range from 1.39 to 1.42 (Aleman, Kahn, & Selten, 2003), demonstrating that the number of new cases of 'schizophrenia' in a given time period is higher for men than for women. Other studies have demonstrated that the incidence of 'schizophrenia' is up to 2-3 times higher in men than in women, across different diagnostic systems (Iacono & Beiser, 1992).

Data suggests that schizophrenia-related disorders are twice as prevalent in males as females (Morgan et al., 2014; Usall et al., 2001), meaning that the number of existing cases of 'schizophrenia' is higher for men than women. This is reflected in service provision, whereby a clear majority of users of first episode psychosis services are male. In reviews of service users within first episode services, 69-79% of users have been found to be male (Calahorra, Jiménez, & Serrano, 2017; Paruk, Jhazbhay, Singh, Sartorius, & Burns, 2015).

#### 1.4.4. Age of onset

One of the most consistent research findings is that men develop psychosis at a younger age than women (Cascio, Cella, Preti, Meneghelli, & Cocchi, 2012; Castle, Abel, Takei, & Murray, 1995; Falkenburg & Tracy, 2014; Ochoa et al., 2012; Riecher-Rössler, 2016). Studies have demonstrated that onset tends to peak for men at the ages of 18-24 compared to 25-30 for women (Kirkbride et al., 2006; Read & Beavan, 2013). These findings are consistent with the findings of a large population-based study, which demonstrated that women were 3-4 years older than men at illness onset (Häfner, 2002; Häfner et al., 1993).

A "secondary peak" of incidence has been observed in women near the age of 45 years (Drake et al., 2016; Häfner et al., 1993; Kirkbride et al., 2006). The onset of psychosis after the age of 35 years occurs in 12% of females and just

7% of males (Jayaswal, Paraveenlal, Khandelwal, & Mohan, 1987). It has also been suggested that women demonstrate a third mode of onset in their early 60s (Castle & Murray, 1993). It has been hypothesised that a male preponderance among early-onset cases, and a female preponderance among late-onset cases lead to a roughly equivalent lifetime incidence in both genders (Häfner, 2002).

#### 1.4.5. Duration of untreated psychosis (DUP)

Gender differences in DUP in the research literature are inconsistent. Cascio et al. (2012) highlight that only 16 out of 27 studies included in their meta-analysis report a longer DUP in men, while the remaining studies either showed that women had a longer DUP or showed no gender difference at all. This led the authors to conclude that there was no effect of gender on DUP.

#### 1.4.6. Diagnosis

Differences in diagnostic patterns have also been observed for men and women. Men are more likely to be diagnosed with 'paranoid schizophrenia' while women are more likely to be diagnosed with 'persistent delusional disorder', 'acute or transitory psychotic disorder' and 'schizoaffective disorder' (Petkari, Mayoral, & Moreno-Küstner, 2017). In the course of engagement with services, when diagnostic changes were made, men tended to shift towards 'schizophrenia', while women tended to shift away from a schizophrenia-spectrum disorder towards a mood disorder (Chaves, Addington, Seeman, & Addington, 2006).

#### 1.4.7. Cognitive functioning

Deficits in cognitive functioning are a well-established feature of people diagnosed with 'schizophrenia' (Bora & Murray, 2014). Several studies which compare neuropsychological test scores of men and women with psychosis and 'schizophrenia', have demonstrated gender differences in cognitive ability and deficit. In a study examining 154 participants with 'schizophrenia', Vaskinn et al. (2011) found that women outperformed men on almost all neuropsychological tests. Among the more consistent findings was that men tend to perform worse on tests of memory (Han et al., 2012; Ittig et al., 2015), attention (Goldstein et al., 1998), verbal tasks (Riecher-Rössler, 2016) and executive function

(Goldstein et al., 1998; Vaskinn et al., 2011). These differences are independent of diagnostic group, with women outperforming men across at-risk mental state, first episode psychosis and 'schizophrenia' samples (Ittig et al., 2015; Lewine, 2004; Vaskinn et al., 2011).

However, several studies contradict this finding and report no gender differences in neuropsychological performance. In a study comparing 160 participants with first episode psychosis and 159 controls, Ayesa-Arriola et al. (2014) report that, at the onset of psychosis, there are no difference between male and female neuropsychological performance. Similar studies have confirmed these findings, suggesting that men and women with psychosis and 'schizophrenia' experience similar neuropsychological impairments (Albus et al., 1997; Gogos, Joshua, & Rossell, 2010; Zanelli et al., 2013).

#### 1.4.8. Social functioning

Studies which have examined different domains of functioning have demonstrated that women tend to have higher levels of functioning before the development of psychosis (Castle et al., 1995; Ochoa et al., 2012), including in terms of school performance, social interest and sociosexual development (Preston, Orr, Date, Nolan, & Castle, 2002). In a study of 578 individuals with first episode psychosis, Thorup et al. (2007) reported that men had poorer social networks while women reach higher levels of social functioning at follow-up. In practice this means that women with psychosis or 'schizophrenia' are more likely to be in long-term relationships, to have children and to be engaged in meaningful employment (Andia et al., 1995; Atalay & Atalay, 2006; Morgan, Castle, & Jablensky, 2008). In comparison, men are more socially isolated, are more likely to neglect their self-care, and report higher levels of disability (Morgan et al., 2008).

Levels of social functioning are also associated with length of DUP (Fresan et al., 2003) and presence of negative symptoms (Larsen, McGlashan, Johannessen, & Vibe-Hansen, 1996; Thorup et al., 2007). Patients with a shorter DUP show better social functioning compared to those with a longer DUP (Fresan et al., 2003). Men with poorer social functioning before the onset of psychosis, as well as more severe negative symptoms, may be more likely to

isolate themselves and less likely to engage with services (Abel et al., 2010), which is in turn associated with poorer outcomes (Mattsson et al., 2008).

#### 1.4.9. Course and outcome

Many studies show that women experience more positive outcomes following contact with services. In a review of the literature, Abel et al. (2010) highlighted several studies which show that women have a better prognosis than men over 2-10 years. At the point of discharge from services, several studies report that women are more likely to have better outcomes in the domains of symptoms and disability, to have higher levels of functioning and to more often be considered to have improved (Amin & Hamdi, 1995; Cotton et al., 2009; Croudace, Amin, Singh, Jones, & Harrison, 1998). According to the criteria used by an EIPS in Singapore, 33.3% of female service users achieved recovery after one year compared to 23.6% of male service users (Pang et al., 2016).

Inpatient studies of first episode populations have demonstrated that, at up to 10 years follow up, women experienced fewer hospital readmissions and shorter lengths of hospital stays (Angermeyer, Goldstein, & Kuehn, 1989; Atalay & Atalay, 2006; Goldstein, 1988; Grossman, Harrow, Rosen, & Faull, 2006; Köhler et al., 2009; Usall, Suarez, & Haro, 2007). Furthermore, women report improved social outcomes compared to men, and are more likely be employed or in education at follow up (Chang et al., 2011; Thorup et al., 2014). A 20-year follow up study found better outcomes for women in terms of a range of global outcome scores including work functioning, life adjustment and self-support (Grossman, Harrow, Rosen, Faull, & Strauss, 2008).

Authors of an early literature review concluded that women have a more benign course of illness or that women experience a less severe form of 'schizophrenia' than men (Resende, Viglione, & de Lima Argimon, 2009; Castle et al., 1995). However, other authors have noted that improved outcomes may be explained by service engagement and medication compliance, both of which are higher for women compared to men (Theuma, Read, Moskowitz, & Stewart, 2007).

#### 1.4.10. Medication use and response

A review of the literature reported that women require less antipsychotic medication than men to achieve a comparable symptom response (Smith, 2010). Other studies confirm that, in practice, men are prescribed higher doses of antipsychotic medication (Andia et al., 1995; Groleger & Novak-Grubič, 2010). However, contradictory findings have been reported by Pinals, Malhotra, Missar, Pickar and Breier (1996) who found no significant gender differences in antipsychotic treatment response when participants were matched for clinical, treatment and demographic characteristics.

It is reported that symptoms are more quickly controlled in women (Angermeyer et al., 1989) and that, at a range of follow up points, women demonstrate lower levels of psychotic symptoms (Grossman et al., 2008; Köhler et al., 2009; Pang et al., 2016). Specifically, women are much less likely to experience negative symptoms on an ongoing basis (Chang et al., 2011; Thorup et al., 2014).

It is also noted that, despite lower medication doses, women experience more severe hormonal and metabolic side effects (Smith, 2010), obesity and cardiovascular problems (Abel et al., 2010). This is not the case for the side effect of tardive dyskinesia (TD), which is associated with stiff jerky movements of the face and body. Men are at a higher risk of developing TD (Zhang et al., 2009), independent of other risk factors such as age, severity of negative symptoms and exposure to antipsychotic medication (van Os et al., 2002).

#### 1.4.11. Engagement with services

Engagement with mental health services also differs for men and women. Male gender is an established risk factor for disengagement from mental health services generally (O'Brien, Fahmy, & Singh, 2009), as well as psychosis services (Kreyenbuhl, Nossel, & Dixon, 2009; Nosé, Barbui, & Tansella, 2003; Theuma et al., 2007). Individuals with co-occurring substance use disorders are at a heightened risk of disengaging from services (Kreyenbuhl et al., 2009).



#### 1.4.12. Symptom presentation

##### 1.4.12.1. *Positive and negative symptom differences*

Research suggests that men and women with psychosis or 'schizophrenia' tend to present with different psychotic symptoms. The most consistent finding is that men are more likely to experience negative symptoms of psychosis while women are more likely to experience positive symptoms (Abel et al., 2010; Brewin, Glazebrook, & Cantwell, 1998; Fleming, 2004; Goldstein & Lewine, 2000). Negative symptoms refer to deficits such as blunted affect and social withdrawal (Andreasen & Olsen, 1982), and are seen more frequently or to a more severe degree in men (Chang et al., 2011; Drake et al., 2016; Ochoa et al., 2012; Ring et al., 1991). Positive symptoms refer to changes in thoughts and behaviour such as hallucinations and delusions (Andreasen & Olsen, 1982), and are more frequently seen in women (Baldwin & Srivastava, 2015; Hambrecht, Maurer, & Häfner, 1992; Tang et al., 2007).

In a review of 578 patients with first episode psychosis, Thorup et al. (2007) reported that men have higher levels of negative symptoms. Similarly, in a study exploring symptoms of 140 patients with a diagnosis of 'schizophrenia', Suhail and Chaudhry (2006) report that significantly more men than women experienced negative symptoms of avolition, affective flattening, disorganised behaviour, and inappropriate affect. When reviewed using the Positive and Negative Symptom Scale (PANSS), men scored higher on items of blunted affect, emotional and social withdrawal, poor rapport, difficulty in abstract thinking, stereotyped thinking, poor attention, and avolition (Groleger & Novak-Grubič, 2010). Contrastingly, studies of inpatients with a diagnosis of 'schizophrenia' have reported that women are more likely to experience positive symptoms (Tang et al., 2007; Zhang et al., 2012). A large general population study confirmed that male gender is associated with a higher prevalence of negative symptoms, while female gender is associated with higher rates of positive symptoms (Maric, Krabbendam, Vollebergh, De Graaf, & Van Os, 2003). Goldstein and Lewine (2000) report that a male tendency towards negative symptoms and a female tendency towards affective symptoms is consistent even in patients not receiving medication.

#### 1.4.12.2. *Differences in types of positive symptoms*

Gender differences are also recorded in the types of positive symptoms experienced. A well-replicated finding is that women are more likely to experience hallucinations (Goldstein & Lewine, 2000; Sharma, Dowd, & Janicak, 1999). In their review of 578 patients with first episode psychosis, Thorup et al. (2007) confirmed that women are more likely to experience more severe hallucinations. These findings have been replicated by large general population studies, which found that women are more likely to experience auditory, olfactory and tactile hallucinations (Murphy, Shevlin, Adamson, & Houston, 2010; Shevlin, Murphy, Dorahy, & Adamson, 2007).

In studies of patients with a diagnosis of 'schizophrenia', women have also been found to more frequently experience paranoid or persecutory delusions (Atalay & Atalay, 2006; Goldstein & Lewine, 2000; Goldstein, Santangelo, Simpson, & Tsuang, 1990; Suhail & Chaudhry, 2006). However, there is some discrepancy in these findings with some studies suggesting that men are equally likely, or more likely, to experience persecutory delusions (Amin & Hamdi, 1995; Menon, Cornelio, & Saraswathy, 1980; Murphy et al., 2010).

Contrastingly, men are reported to be more likely to experience grandiose delusions (Chu, Abi-Dargham, Ackerman, Çetingök, & Klein, 1989; Menon et al., 1980). In a review of outpatients diagnosed with delusional disorder, 6.1% of men were experiencing grandiose delusions compared to 3.8% of women (de Portugal et al., 2010).

Additionally, there is limited evidence to suggest that men more often present with symptoms of thought disorder (Galderisi, Bucci, Üçok, & Peuskens, 2012; Pandurangi, Sax, Pelonero, & Goldberg, 1994; Thorup et al., 2007), including increased hostility (Ochoa et al., 2012).

#### 1.4.13. Content of psychotic experiences

There is a growing focus on exploring the content of psychotic symptoms (Geekie & Read, 2009), with several recent studies exploring themes that emerge in individuals' psychotic symptoms.

For example, interpretive phenomenological analysis was used by Rhodes, Jakes and Robinson (2005) to generate a typology of themes within delusional content based on interviews with 25 individuals experiencing psychosis. This revealed 34 themes corresponding to the domains of negative self, negative interaction, special self, identity and relationships, specific mental experience, and entities. In a review of 174 case records, Mitropoulos et al. (2015) report an extensive breakdown of 27 themes that emerged in participants' delusional beliefs. In addition to the themes previously listed, this included Capgras syndrome (in which an individual believes a family member has been replaced by an imposter), Fregoli syndrome (in which an individual believes that different people are in fact a single person who changes appearance or is in disguise), delusions of pregnancy, delusions concerning appearance and delusions of conspiracy. A review of the literature suggest that the following themes are present in delusional beliefs: persecution, infidelity, love, grandiosity, religion, guilt and nihilism (Kiran & Chaudhury, 2009). Stompe, Ortwein-Swoboda, Ritter and Schanda (2003) have proposed that there are only a few key themes found across individuals' experiences and that these include persecution, grandiosity, guilt, religion, hypochondria, jealousy and love.

Similarly, Corsten and Longden's (2013) exploration of the themes of hallucinations has revealed that the most prevalent experiences include hearing negative and malicious voices, which criticise, command or threaten the hearer. Less frequently experienced are positive or supportive voices, voices in a foreign language and voices related to religious or spiritual frameworks.

#### 1.4.13.1. *Gender differences in delusional themes*

There has been very limited comparison of the content of unusual beliefs by gender to date but several exploratory studies have suggested that delusional themes differ for men and women. As previously mentioned, men are more likely to experience delusions of grandiosity (de Portugal et al., 2010) while women are more likely to experience delusions of persecution and paranoia (Goldstein & Lewine, 2000). However, gender differences are thought to exist within those categories.

A review of 182 medical records found that women felt more often under surveillance than men, while men showed a greater tendency to report feeling as though they were being talked about (Rössler, Richter, & Walter, 2016). Similarly, a large population-based study demonstrated that women were more likely to believe that others are reading their mind, while men were more likely to report experiences of others plotting against them or aiming to hurt them (Murphy et al., 2010).

When delusions of grandeur occurred in women, they are more likely to experienced vicariously. Women more often acquire grandiose attributions through their relationships with others, for example in a belief that they are associated with or are in a significant relationship with powerful or famous individuals (Rössler et al., 2016; Allan & Hafner, 1989). Contrastingly, men's delusions of grandeur are more likely to relate to personal power and social status (Allan & Hafner, 1989; Suhail, 2003).

Women's unusual beliefs are also more likely to relate to themes of spiritual preoccupation and concern with interpersonal wrongs (Goldstein & Lewine, 2000). Several studies have independently reported themes of fertility or pregnancy in women (Allan & Hafner, 1989; Mitropoulos et al., 2015; Rudden, Sweeney, Frances, & Gilmore, 1983). Delusions of rape, poisoning, jealousy and erotomania have also been reported to be significantly more common for women than for men (Allan & Hafner, 1989; Gecici et al., 2010; Rudden et al., 1983).

Men are reportedly more likely to experience beliefs related to accusations of homosexuality (Mitropoulos et al., 2015; Allan & Hafner, 1989; Rudden et al., 1983). An exploration of sexual delusions reported in 174 case histories demonstrated that themes of sexual delusions differ for men and women. Significantly more men than women exhibited reported themes of accusations of homosexuality, and significantly more women than men reported themes of accusations of sexual immorality (Mitropoulos et al., 2015).

Studies have also found that attributions made regarding unusual experiences also differ for men and women. While the majority of men reported persecution

by unknown individuals, women were more likely to report feeling persecuted by familiar people (Rudden et al., 1983; Walston, David, & Charlton, 1998).

#### 1.4.13.2. *Gender differences in themes of hallucinations*

Though women are more likely to experience auditory hallucinations than men in general (Goldstein & Lewine, 2000), particular aspects of voice hearing have also been reported more widely in women. In a review of 65 women and 132 men, McCarthy-Jones et al. (2015) reported that women were more likely to report voices conversing than men. The same study explored the content of these women's voices and found that all women interviewed described hearing hostile, critical and angry voices, which made use of abusive language.

Similarly, qualitative analysis by Haarmans, Vass and Bentall (2016) demonstrates that women are likely to experience undermining voices, which often use gendered conditions of worth to denigrate. For example, "you're not good enough to get married", "you're not pretty enough" or "you're a whore". However, both studies were limited by its lack of gender analysis of qualitative themes.

### 1.5. Explanations of gender differences

#### 1.5.1. Abuse and psychosis

##### 1.5.1.1. *Gender differences in prevalence of abuse*

One explanation for the gender differences seen in the experience of psychosis, is different rates of childhood abuse. Sexual violence is more often experienced by women and girls (World Health Organization, 2002), with estimates suggesting that adult women are 10 times more likely to experience sexual assault compared to men (Kessler et al., 1995). As well as being more common, sexual violence in women has also been found to often be more severe (Romito & Grassi, 2007). It is consistently found that childhood sexual abuse is also disproportionately perpetrated against girls compared to boys. A review of the literature concluded that 47% of female inpatients, compared to 29% of male inpatients, had been sexually abused in childhood (Read, Fink, Rudegeair, Felitti, & Whitfield, 2008).

However, it is acknowledged that the reported rates of childhood sexual abuse may be distorted by gender differences in disclosure. Men are less likely to disclose experiences of sexual or physical abuse (Alaggia, 2005), are less likely to be asked about abuse in mental health settings (Read & Fraser, 1998) and are less likely to have disclosures of abuse responded to (Agar & Read, 2002). It is acknowledged that the prevalence of abuse is underestimated across studies, particularly in studies which rely on medical records (Read, 1997).

#### 1.5.1.2. *Specific abuse leading to specific symptoms*

A growing body of evidence demonstrates that specific experiences of abuse are associated with specific psychotic experiences. Research is emerging that demonstrates associations between specific forms of abuse and specific complaints such as hearing voices or holding unusual beliefs. An early study which reviewed the inpatient records of patients with a history of childhood abuse demonstrated that childhood abuse is related to different psychotic experiences to different degrees – 40% experienced ideas of reference, 50% experienced auditory hallucinations and 62% experienced paranoid ideation (Read & Argyle, 1999).

Among the most consistent findings in the literature is an association between childhood sexual abuse and an increased risk of developing hallucinations. According to data collected by the UK Adult Psychiatric Morbidity Survey, childhood sexual abuse is associated with the development of hallucinations, even after controlling for other adversities and psychotic symptoms (Bentall, Wickham, Shevlin, & Varese, 2012). It has been estimated that individuals who have experienced childhood sexual abuse are more than twice as likely to experience hallucinations (Shevlin, McAnee, Bentall, & Murphy, 2015). This association is particularly related to auditory hallucinations and estimates suggest that up to 53% of individuals who hear voices have been sexually abused (Read & Argyle, 1999). In a review of 200 people attending a community mental health team, Read, Agar, Argyle and Aderhold (2003) report that, compared to non-abused participants, survivors of childhood sexual abuse were three times more likely to experience hallucinations. This study also demonstrated that the experience of tactile hallucinations is related to experiences of childhood sexual abuse. It was reported that tactile

hallucinations were found in none of the 108 non-abused participants but in 12% of those who were abused as children.

Contrastingly, higher rates of delusional beliefs have been found in those who have experienced childhood physical abuse (Read & Argyle, 1999). More specifically, paranoia has been found to be significantly predicted by experiences of childhood bullying (Shevlin et al., 2015), childhood physical abuse (Bentall et al., 2012) and being raised in institutional care (Bentall et al., 2012; Sitko, Bentall, Shevlin, O'Sullivan, & Sellwood, 2014), which is likened by some researchers to neglect.

#### 1.5.1.3. *Autobiographical content of psychosis*

Several studies have demonstrated that the content of psychotic symptoms, including hallucinations and delusions, is related to individuals' history of trauma or abuse (Bentall et al., 2014; Falukozi & Addington, 2012; Read & Argyle, 1999; Reiff, Castille, Muenzenmaier, & Link, 2012).

Research by Romme and Escher (1989) suggests that at least 70% of people who hear voices have experienced trauma which they connect with hearing voices. In a sample of 75 patients with psychosis, Hardy et al. (2005) found that 12.5% of participants had symptoms directly related to previous trauma and a further 57.5% had symptoms indirectly associated with previous trauma, which involved similar thematic contents such as humiliation, intrusiveness, guilt and threat. Reiff et al. (2012) report that 'trauma relevant content scores' were higher for survivors of childhood abuse, and two thirds of participants' psychotic experiences corresponded with their experiences of abuse. Several features emerged in the themes of hallucinations and delusions of participants with a history of abuse, specifically malevolence, fear, sexuality and the involvement of a real person. Corstens and Longden (2013) report that 45% of voices take the form of individuals who have abused the hearer and embody themes of anger, shame, guilt and difficulties with intimacy.

It has been documented that the presence of psychotic symptoms with sexual content is specifically related to a history of previous sexual trauma (Thompson et al., 2010). Studies have demonstrated that the content of hallucinations, in

individuals with a history of childhood sexual abuse, is strongly reminiscent of episodes of sexual trauma (Famularo, Kinscherff, & Fenton, 1992) or contain symbolic representations of traumatic experiences (Ensink, 1992). In a qualitative review of women's hallucinations, it was found that the abusive language used by voices echoed the words used by previous abusers (McCarthy-Jones et al., 2015). In their exploration of the symptoms experienced by 22 inpatients with a history of childhood sexual or physical abuse, Read and Argyle (1999) describe a participant who experienced auditory hallucinations commanding her to kill herself, identified by the participant as the voice of the perpetrator of her abuse. Another participant, who had been sexually abused by his grandfather during childhood, reported a visual hallucination of an elderly man. Similar themes were revealed by Heins, Gray and Tennant (1990), who report participants who had been sexually abused as a child hearing a voice telling them that they were "sleazy" or voices accusing them of having done "dirty sexy things".

Similar thematic associations have been found in delusions. Individuals who have experienced childhood sexual abuse have reported delusions such as feeling that people were watching them when in the shower, that they were covered with ejaculate and that they were having relationships with public figures (Heins et al., 1990; Thompson et al., 2010). Read and Argyle (1999) highlight the experience of a woman, who was sexually abused as a child, who reported that she was persecuted by men who were attempting to sexually harass her.

The relationship between themes in delusional content and autobiographical experiences is not limited to childhood sexual abuse. Read and Argyle (1999) also describe a man with a history of physical abuse by his father, who reported paranoid delusions related to fears of being killed.

It is proposed that many individuals experience psychotic symptoms that make psychological sense in the context of life events, and which can often be formulated to embody underlying emotional conflicts associated with childhood abuse such as low self-worth, anger, shame and guilt (Corstens & Longden, 2013).



### 1.5.2. Substance use and psychosis

#### 1.5.2.1. *Gender differences in substance use*

A second explanation for the gender differences seen in the experience of psychosis, is different rates of substance use. Rates of substance use are higher in men than women in both the general population (Becker & Hu, 2008) and in samples of patients diagnosed with psychotic disorders (Ochoa et al., 2012). Men with psychosis are more likely to use substances than women with psychosis, including alcohol, cannabis and cocaine (Arranz et al., 2015; Galderisi et al., 2012; Hanlon et al., 2017; Paruk et al., 2015; Thorup et al., 2007). A follow up study of first episode psychosis patients demonstrated that 89.4% of men had used substances compared to 55.2% of women (Arranz et al., 2015). Furthermore, men are more likely to receive a diagnosis of substance abuse than women (Kavanagh et al., 2004; Lindamer et al., 2003; Rietschel et al., 2017; Sachs-Ericsson & Ciarlo, 2000) and to receive treatment for substance abuse (O'Hare, 1995).

It is reported that men are more likely to use substances at a younger age than women (Caton, Xie, Drake, & McHugo, 2014). Cannabis use, in particular, has been associated with an earlier onset of psychosis (Allegri et al., 2013; Das, Das, & Das, 2012). A meta-analysis of 83 studies reported that the age of onset for participants who used cannabis was 2.7 years younger than participants who did not, providing further evidence for the causal role of cannabis in the development of psychosis (Large, Sharma, Compton, Slade, & Nielssen, 2011). A review of 133 individuals with first episode psychosis, reported that cannabis use made an independent contribution to age of onset of first psychotic episode (Veen et al., 2004), suggesting that the gender differences seen in age of onset may be explained by different rates of substance use across genders.

#### 1.5.2.2. *Relationship between substance use and adverse life experiences*

Several studies report a relationship between early life adversity and subsequent substance use. In a prospective study of 8,613 adults attending a mental health centre, Dube et al. (2003) found that a score of adverse childhood events was strongly associated with risk of substance use. Compared to participants who reported no adverse childhood events, those who reported more than five were 7-10 times more likely to report illicit substance use.

Substance use has been found to have strong associations with a range of forms of childhood maltreatment. In a study of 1,019 adolescents, 53.5% of those classified as the 'high cannabis use' group report childhood sexual abuse, 48.8% report childhood neglect and 38.7% report childhood physical abuse (Shin, Hong, & Hazen, 2010). Several other studies have concluded that exposure to childhood sexual abuse increases risk for substance use in adulthood (Fergusson, McLeod, & Horwood, 2013; Kilpatrick et al., 2000; Molnar, Buka, & Kessler, 2001). Victims of abuse have also reported using substances at a younger age than their non-abused peers and report reasons for using substances such as a means to cope with painful emotions and to escape from problems (Harrison, Fulkerson, & Beebe, 1997).

### 1.5.3. Gender roles

It is hypothesised that gender differences in mental health problems may also be related to differences in the way men and women express distress (Kirmani, Sharma, & Jahan, 2015). Women have higher rates of 'internalising disorders' such as anxiety and depression, while men have higher rates of 'externalising disorders' such as psychosis and substance abuse (Rosenfield, 1999).

Developmental studies suggest that, in line with societal expectations of masculinity and femininity, boys learn from a young age to inhibit the expression of most emotions, while girls learn to inhibit the expression of anger (Brody, 1985). Girls are socialised to express their emotions whereas boys are not (Brody & Hall, 1993). This leads to individuals exhibiting mental distress in ways aligned to their gender roles (Kirmani et al., 2015).

With regards to psychosis, men are more likely to experience symptoms such as grandiose delusions which reflect their positions of relative power in society (Allan & Hafner, 1989) or to experience negative symptoms which could be understood as an exaggeration of the traditional concepts of masculinity of self-reliance and denial of emotional experiences (Courtenay, 2000). Contrastingly, women are more likely to experience hallucinations, particularly in the form of hearing voices, and experience beliefs that others will harm them. This may be reflective of socially-determined gender roles which have traditionally placed women in subordinate positions in society where they have reduced opportunity

for decision-making, as well as increased rates of gendered violence and discrimination experienced by women. It has been hypothesised that this reflects gender differences in the normal population and that psychotic symptoms can be understood as an exaggeration of gender roles and stereotypes that are pervasive in society (Read & Beavan, 2013)

## **1.6. Research and clinical implications**

Further exploration of gender differences may have important clinical implications for the diagnostic practices and treatment of psychosis. It has been recommended that a 'gender sensitive approach' is applied to mental health policies as well as mental health promotion and prevention programmes (World Health Organization, 2002). The findings of this study may identify different treatment needs for men and women, highlighting potential for improving engagement in services. An increased understanding of the ways in which gender influences the expression, course and outcome of psychotic experiences may be helpful in the design of gender-specific promotion, prevention and treatment programmes (Doherty & Kartalova-O'Doherty, 2010).

This study was designed with the intention of adding to a growing evidence base which questions the dominant biogenetic paradigm that positions psychosis and 'schizophrenia' as pathological diseases. It aims to add to the body of literature which considers the psychosocial aetiology of psychosis including the role of social, cultural, political and biographical factors in the development of distress. A greater understanding of the symptom content of psychotic experiences may inform the development of psychological treatment approaches, particularly those which focus on trauma and psychosocial causal factors, such as childhood adverse experiences. Additional evidence of the role of psychosocial factors may also highlight possibilities for primary prevention strategies which aim to reduce the risk of individuals developing mental health problems, rather than focussing solely on treatment of those in whom they have already developed (Clements & Davies, 2013).

### **1.7. Aims of current study**

Though there is an established literature base for gender differences in the presentation of psychosis, the differing subjective experience of psychosis for men and women is under-researched. Little is known about the experience of psychosis at a content level, and how this differs for men and women. While several studies have begun to focus on identifying themes within psychotic experiences, there has been very limited gender analysis of these themes. Nine studies have been identified which review gender differences in the content of participants' psychotic experiences. However, these studies have been limited in terms of the breadth and depth of exploration. Existing research literature has either relied on small sample sizes, ranging from 24 to 88 participants, (Allan & Hafner, 1989; Walston et al., 1998) or has restricted the exploration of symptom content. Studies have restricted analysis to symptom categories (e.g. grandiose delusions, auditory hallucinations) without an in-depth exploration of thematic content (de Portugal et al., 2010; Rudden et al., 1983) or have restricted analysis to one type of psychotic symptoms i.e. only exploring the themes of delusions or hallucinations but not both (de Portugal et al., 2010; Gecici et al., 2010; McCarthy-Jones et al., 2015; Mitropoulos et al., 2015; Rössler et al., 2016; Suhail, 2003; Walston et al., 1998).

Therefore, this study aims to be the first to explore gender differences in the expression and content of all symptoms reported by a large sample of individuals with psychosis. To contextualise the findings, the study will also explore additional demographic and causal factors that might explain any gender differences in presentation. In light of the literature on the association between adverse life experiences, substance use and psychosis, the study will explore the presence of a history of abuse and substance use and its relationship to psychotic symptoms.

The research questions are:

1. Do men and women experience different types of psychotic symptoms?
2. Does the content of psychotic experiences differ for men and women?
3. Do demographic factors, including a history of abuse and substance use, account for any differences in presentation between men and women?

## **2. METHOD**

### **2.1. Overview**

This chapter will consider the ethical issues pertinent to the present study. It will then outline the epistemological position and provide a description and rationale for the chosen methodology. The materials, procedure and analytic strategies will be described, including details of how the thematic analysis was conducted.

### **2.2. Ethical issues**

#### **2.2.1. Ethical approval**

This study was approved by the NHS Health Research Authority (see Appendix 1). The study was also registered with the ClinPsyD sub-group of School Research Degrees Sub-Committee (SRDSC) at the University of East London and with the collaborating NHS Research and Development Department (see Appendix 1).

#### **2.2.2. The Clinical Record Interactive Search System**

Data for this study was collected using the Clinical Record Interactive Search system (CRIS), software which removes identifying information from pre-existing electronic medical records. It then produces a de-identified database that can be accessed by researchers, allowing access to service users' pre-existing electronic records which have been entirely anonymised. As this study was limited to using previously collected, non-identifiable data provided by CRIS, a research database already approved by a Research Ethics Committee (REC), a full ethical review by a REC was not required.

#### **2.2.3. Confidentiality of data**

No patient identifiable information was used in this study. Data was collected exclusively from the CRIS system, which provides researchers with secure access to anonymised information extracted from electronic clinical records systems. Data obtained from CRIS had all identifying information (including name, telephone number, address, and NHS number) removed or masked.

#### 2.2.4. Consent

As no service users were contacted to directly participate in the research project, consent was not obtained. The CRIS system operates on an opt-out basis, which means that the electronic medical records of all service users' of participating NHS Trusts are automatically included in the system, unless they have chosen for them to be excluded.

### **2.3. Epistemological position**

A critical realist stance was taken to explore gender differences in the experience of psychosis. Critical realism assumes that an objective reality exists but that our access to this reality is indirect and interpreted within a social and cultural context (Willig, 2013). This stance has been described as an alternative approach to realist assumptions that assume an objective, unproblematic, observable reality exists, as well as social constructionist, or relativist, perspectives that assume there are multiple versions of reality which are informed by social and cultural influences (Bergin, 2008).

This study assumes that psychosis can be experienced as a material reality across time, independent of personal experience. However, it is acknowledged that understandings, discourses and constructs of psychosis and mental illness are socially constructed within a broader historical, cultural and social context. Understandings of psychosis, including diagnostic classification and practices, are socially constructed rather than 'real' entities, the perception of which will vary across time and place. Furthermore, the observation or measurement of individuals' experiences will not directly mirror reality as subjectivity will lie in the interpretation and reporting of these experiences. Therefore, from a critical realist position, it is acknowledged that knowledge is fallible and findings of the study must be interpreted tentatively.

Similarly, it is acknowledged that the notion of gender is subject to social and cultural influences. A critical realist stance accepts genetic and biological differences which define an individual's 'sex', while emphasising the social and cultural forces which contribute to the construction of 'gender'. These include the socially constructed roles and cultural expectations associated with

members of different sexes (Newman, 2002). Bergin, Wells and Owen (2008) suggest that critical realism “allows the biological (sex) and social (gender) domains of knowledge for mental health and illness to coexist, without either being reduced to or defined by the other” (p. 177).

Pilgrim and Bentall (1999) suggest that critical realism is a particularly helpful approach for research of mental health issues. Critical realism allows a position whereby a reality is accepted but where it is understood that our theories of reality, and methods of investigating it, are shaped by social and cultural factors. These include race, class and gender as well as contextual linguistic, cultural and professional constraints. The ways in which my own values and biases might have influenced the design or findings of the present study will be explored in the discussion.

#### **2.4. Design**

This study drew upon a mixed method approach to attempt to gain a fuller understanding of the gender differences in psychosis than previous research studies. Electronic medical records from two EIPS were reviewed to obtain quantitative data on the presentation of psychosis and the symptoms experienced by male and female clients. The content of psychotic experiences recorded in the electronic records was also recorded verbatim to obtain data for an exploratory qualitative analysis.

#### **2.5. Participants**

This study’s sample comprised of 160 participants who had been referred to one of two EIPS. Data was collected for 80 men and 80 women, to ensure that any observed gender differences in psychotic symptoms cannot be accounted for by unequal samples (Wahl & Hunter, 1992). Potential participants were identified using the CRIS system (n=160, male 80, female 80). As the population from which to draw the sample was very large (the EIPS have a combined caseload of at least 500 at any one time), participants were identified on the basis of date of entry to the service. Most recent records were reviewed

first, ranging back to records for participants under the care of the service from 2012.

#### 2.5.1. Inclusion and exclusion criteria

As service users under the care of EIPS, participants were aged between 14 and 35 and had experienced a first episode of psychosis. As age of onset has been reliably shown to differ for men and women (Cascio et al., 2012), service users from the age of 14 were included in order to fully explore differences in psychotic presentation. Additionally, clients must have had a comprehensive assessment completed and recorded on referral to the service, to ensure that there was sufficient information for analysis.

Individuals accepted to the services for extended assessment, who were then not deemed suitable for the service, were excluded. Furthermore, individuals who communicated via an interpreter were excluded from the study due to the risk of interpretation impacting on disclosures of abuse and/or psychotic experiences.

### **2.6. Materials**

An electronic data sheet was designed to record the presence and content of psychotic experiences (see Appendix 2). The data sheet included psychotic experiences based on the symptoms of 'schizophrenia' outlined in The Diagnostic and Statistical Manual of Mental Disorders (5<sup>th</sup> Edition; DSM-5; American Psychiatric Association, 2013), the International Statistical Classification of Diseases (10<sup>th</sup> Edition; ICD-10; World Health Organization, 2004) and symptoms listed in the Positive and Negative Syndrome Scale (PANSS; Kay, Fiszbein, & Opler, 1987). The data sheet included the following:

- Demographic information (gender, age at entry to mental health services, primary psychotic diagnosis, ethnicity)
- History of substance use
- History of abuse or assault (childhood bullying, childhood physical abuse, childhood emotional abuse, childhood sexual abuse, childhood neglect,



childhood domestic violence, adult sexual abuse, adult emotional abuse, adult physical abuse)

- Broad categories of psychotic symptoms (delusions, hallucinations, thought disorder, catatonia/ motor retardation, negative symptoms)
- Specific symptom types (grandiose, suspicious/ persecutory, erotomanic, somatic, reference, nihilistic, control, other, auditory hallucination, visual hallucination, tactile hallucination, olfactory hallucination, excitement, hostility, thought insertion, thought withdrawal, thought broadcast, thought block, incoherence, tangentiality, flight of ideas/ pressure of speech, blunted affect, emotional withdrawal, social withdrawal, difficulty in abstract thinking, poverty of speech, stereotyped thinking, anhedonia, avolition, cognitive deficit)

The data sheet also contained space to record any descriptions of the nature or content of psychotic symptom verbatim.

## **2.7. Procedure**

Pre-existing, anonymised, electronic records of 160 services users under the care of an EIPS were analysed, using the CRIS system. A sample size of 160 was chosen as it was considered sufficiently large enough to draw initial conclusions from the data, whilst being a feasible number given the time and resources available for a doctoral thesis (based on an estimate of 30 minutes per participant to complete data collection). Data was collected regarding the presence or absence of specific types of psychotic symptom each person experienced (e.g. auditory hallucination, grandiose delusion), as well as the content of their experience using the data collection sheet described above. For example, if it was recorded that a person heard a voice, this was noted on a data collection sheet as the presence of a hallucination, specifically an auditory hallucination. The content of the voice e.g. “you are worthless” was also copied verbatim, if recorded in the electronic medical records.

The data sheet was reviewed and revised after collecting data for 20 participants. A category of ‘childhood domestic violence’ was added as it was noted that several of the initial participants had witnessed or experienced

domestic violence in their childhood. Revision of the data collection sheet also included removing the category of 'bizarre' delusion. Though a recognised category of delusion in the DSM-5 (APA, 2013), it was noted that it was difficult to categorise delusions as either 'bizarre' or 'non-bizarre'. This is consistent with previous research which highlights low rates of inter-rater reliability for the construct (Bell, Halligan, & Ellis, 2006). Following this, the records of the remaining 140 service users were analysed.

#### 2.7.1. Inter-rater reliability

To increase reliability in the data collection process, inter-rater testing was employed for the coding of abuse histories. Abuse history was only included in cases whereby both raters were at least 95% certain that abuse occurred based on what was recorded in the records.

Recording of abuse histories was primarily based on identifications by clinicians in the electronic medical records. For example, records stating that an individual was "physically abused as a child" was considered sufficient to code for abuse having occurred. However, there were 31 instances where abuse history was considered ambiguous. For example, an individual's notes included: "Describes her mother as unable to manage, absent and distant and for many years her estranged father showed her and her biological older sister little care or interest". Though this may have reflected a history of neglect in the individuals' childhood, raters were not 95% sure that abuse or neglect had occurred and it was not included in the analysis. In total, 14 ambiguous cases were removed from the analysis on the basis of inter-rater testing.

## **2.8. Approach to analysis**

This study made use of a mixed methods design to allow for the collection of quantitative data for statistical analysis as well as qualitative data for analysis by a thematic analysis.

### **2.8.1. Statistical analysis**

Quantitative data was analysed using SPSS (V22.0; IBM Corp., 2013)

Descriptive statistics for the full range of demographic and clinical variables were calculated.

Mann-Whitney U tests were used to explore gender differences in the number of symptoms participants presented. As the data was not normally distributed, and therefore did not meet the assumptions for a parametric test, independent samples Mann-Whitney U tests were chosen over a parametric t-test. An alternative approach to analysis would have been to use a non-parametric multivariate Kruskal-Wallis test. However, this is more commonly used with analyses involving three or more levels of the independent variable. As the independent variable (gender) in the present study had two levels (male, female), a Mann-Whitney U test was deemed a sufficient method of analysis.

Pearson's chi squared analyses were then used to assess the relationships between gender and specific psychotic symptoms, as well as the relationship between gender and life history (i.e. abuse or substance use).

Additionally, the relationships between gender, symptoms and life history were examined using chi squared analysis. An alternative approach would have been to use a mediation analysis to examine whether gender had a mediating role on the development of specific types of psychotic symptom following exposure to specific life events. A mediation analysis investigates the impact of a mediating variable on the relationship between an independent variable and dependent variable, i.e. it explores a causal chain whereby one variable affects a second variable, which in turn affects a third variable (Baron & Kenny, 1986). However, in order to conduct a mediation analysis, it is important to have strong theoretical support for a potentially mediating variable, i.e. for a variable playing

a causal role. Given the exploratory nature of the present analysis, it was felt that there was not sufficient theoretical support for gender acting as a mediating factor between life history and symptom presentation. Furthermore, positioning gender as a mediating variable between trauma and symptom presentation is problematic. There is no existing evidence to suggest that gender can cause psychotic symptoms and therefore, while it might be statistically important, this would not reflect real-world relationships. There is an extensive literature base which demonstrates the relationship between history of abuse and the development of psychosis for both genders, and therefore it is questionable to position gender as a causal factor in the development of psychosis for individuals who have experienced abuse.

In order to reduce the risk of Type I errors (i.e. false positives), a significance level of .025 was used for all statistical analysis to account for the number of analyses performed (see Section 4.7.5 for a full discussion).

### 2.8.2. Thematic analysis

Thematic analysis was chosen for this study in order to explore the qualitative experience of psychosis. According to Braun and Clark (2006), thematic analysis is a method for “identifying, analysing and reporting patterns (themes) within data” (p. 6). Thematic analysis differs from other qualitative research methods such as grounded theory and interpretative phenomenological analysis as it can be used flexibly within most theoretical frameworks and epistemological stances (Braun & Clark, 2006; Willig & Stainton-Rogers, 2017).

Thematic analysis can be conducted in several ways. Due to the exploratory nature of the study, and the paucity of previous research examining gender differences in the themes of psychotic experiences, an inductive analysis was employed. This permitted analysis of the data without attempting to conform to existing frameworks. This contrasts with deductive analysis which is driven by theory (Braun & Clark, 2006). It was important to use an inductive method in the study to allow the generation of themes based directly on the data, separate to my prior knowledge of pre-existing classifications of psychotic symptoms. Though it is not possible to avoid influence of existing theory or practice, an

inductive approach facilitated the generation of new findings and novel themes (Joffe, 2011).

#### *2.8.2.1. Data collection*

Thematic analysis employed in the present study differed from the thematic analysis employed in other research studies in one key way. Thematic analysis is most frequently used to analyse data obtained from interviews with participants which is then transcribed and analysed for themes. The present study did not interview participants and instead obtained qualitative data, regarding the content of psychotic symptoms, directly from electronic medical records. This meant that data did not need to be transcribed as it was directly copied from the records onto the data collection sheet.

#### *2.8.2.2. Phase one: Familiarisation with the data*

The first phase of thematic analysis is familiarisation with the data. Braun and Clark (2006) highlight the importance of immersion in the data so that you are familiar with its breadth and depth. This is true regardless of the data collection method employed. Following data collection, the qualitative data was read by the researcher and initial notes of observations made.

#### *2.8.2.3. Phase two: Coding*

Braun and Clark (2006) suggest that the second phase of thematic analysis is the generation of initial codes. For the present study, this involved extracting a total of 2,306 individual codes from the large amounts of qualitative data obtained from the electronic medical records. Pertinent data was extracted as codes, leaving behind irrelevant content. For example, electronic medical records often included details such as “the patient reports that she has been staying awake at night thinking that someone will come and kill her at home”. This was recorded as the code “someone will break in at night and kill her at home”. This was a more limited phase than in other examples of thematic analysis as the process had already been partially completed in the data collection process, as the researcher only recorded information pertinent to the content of symptoms.

#### *2.8.2.4. Phase three: Searching for themes*

The third phase involved sorting the codes into potential themes. Due to the large volume of data collected, and therefore the large number of themes, this was done initially by grouping similar codes into separate pages with the aim of making connections between codes and forming broader themes. During this phase, the relationship between different themes was also considered. More specific sub-themes were created under general themes. This phase continued until all codes were allocated to themes and sub-themes. Codes that did not appear to fit into themes were kept aside.

#### *2.8.2.5. Phase four: Reviewing themes*

After an initial set of themes and sub-themes was established, the fourth phase involved reviewing and refining themes. Firstly, all collated extracts for each theme were read in turn. Where codes did not appear to form a coherent pattern within a theme or sub-theme, their position in the theme was reviewed. Extracts deemed inconsistent with a theme were removed. Themes that had fewer than five extracts associated with them were either collapsed into broader themes or discarded from analysis. Themes with large numbers of extracts attached were considered for splitting into sub-themes.

#### *2.8.2.6. Phase five: Defining and naming themes*

The fifth phase involved naming and defining themes and sub-themes. Themes and sub-themes were labelled to capture the essence of each. Detailed definitions were then created for each theme and sub-theme.

#### *2.8.2.7. Inter-rater reliability*

To increase reliability in the thematic analysis process, inter-rater tests of reliability were conducted at this stage. A full set of the initial 30 themes and 85 sub-themes (with associated definitions) were provided to the study's supervisor. A list of 230 codes (i.e. double the number of themes and sub-themes) was also shared. This included one extract associated with each sub-theme and theme, plus a random selection of 115 extracts. The supervisors' allocation of extracts into themes and sub-themes was compared with the researcher's.

Once basic errors were removed (i.e. typographical errors and codes entered in error), this resulted in a measure of inter-rater reliability of 85.3%. Several amendments were then made based on discussion of discrepancies between the two sets of allocations. For example, the title and definition of the sub-theme “monitored by authorities, police or government organisations” was amended to include “people in authority” to account for different interpretation of an extract. Similarly, a sub-theme titled “imposters” was amended to “people are not who they seem” to more fully account for the range of participants’ experiences. Additional sub-themes were created including “inanimate noises” as a sub-theme of the theme “hearing noises”.

It was noted that the majority of discrepancies were caused by a failure to allocate extracts to multiple themes or sub-themes. As individual extracts of data can be coded into as many different themes as appropriate, an extract may appear in the analysis multiple times. Omitting an extract from a relevant theme or sub-theme was a common source of error for the raters. Therefore, the thematic analysis was reviewed once more paying specific attention to multiple allocations of codes.

### 2.8.3. Statistical analysis of gender differences in themes

Boyatzis (1998) suggests that, where appropriate, the findings of thematic analysis can be analysed statistically to transform qualitative data into quantitative form. Therefore, chi squared analyses were also used to explore the relationship between gender and the themes and sub-themes of the content of the psychotic experiences that emerged from the thematic analysis (see Section 3.5.1.). The total number of men and women who experienced psychotic symptoms pertaining to each theme and sub-theme were collated and used to establish if there were statistically significant gender differences in the experience of particular themes.

### **3. RESULTS**

#### **3.1. Overview**

This chapter details participant characteristics and the results of analyses pertaining to each of the study's research questions. This includes presentation of the thematic analysis of the content of psychotic symptoms, split into themes and sub-themes. To reflect the order in which analyses were conducted the research questions will be addressed in the following order:

1. Do men and women experience different types of psychotic symptoms?
2. Do demographic factors, including a history of abuse and substance use, account for any differences in presentation between men and women?
3. Does the content of psychotic experiences differ for men and women?

#### **3.2. Participant characteristics**

Table 1 details participant characteristics of the 160 participants included in the study.



**Table 1. Participant characteristics**

<b>Characteristic</b>	<b>Male</b>	<b>Female</b>
<i>Gender</i>	80	80
<i>Age at entry to service M (SD)</i>	23.07 (5.43)	24.41 (5.68)
<i>Ethnic background N (%)</i>		
White – British/ English/ Irish/ Other	42 (52.50)	42 (52.50)
Black or Black British – African/ Caribbean/ Other	26 (32.50)	24 (30.00)
Asian or Asian British – Pakistani/ Indian/ Bangladeshi/ Other	8 (10.00)	9 (11.25)
Mixed ethnicity	0 (0.00)	1 (1.25)
Any other ethnicity	1 (1.25)	6 (7.50)
Not listed	3 (3.75)	1 (1.25)
<i>Diagnosis N (%)</i>		
Not listed	22 (27.50)	25 (31.25)
Mental and behavioural disorder due to substance use	16 (20.00)	6 (7.50)
Paranoid schizophrenia/ schizophrenia unspecified	12 (15.00)	6 (7.50)
Unspecified nonorganic psychosis	10 (12.50)	14 (17.50)
Mania with psychotic symptoms	6 (7.50)	2 (2.50)
Acute and transient psychotic disorder	4 (5.00)	6 (7.50)
Non-psychotic diagnosis	4 (5.00)	8 (10.00)
Other nonorganic psychotic disorders	2 (2.50)	1 (1.25)
Acute polymorphic psychotic disorder	1 (1.25)	2 (2.50)
Other acute and transient psychotic disorders	1 (1.25)	1 (1.25)
Schizoaffective disorder	1 (1.25)	4 (5.00)
Severe depressive episode with psychotic symptoms	1 (1.25)	4 (5.00)
Puerperal mental disorder, unspecified	0 (0.00)	1 (1.25)

### 3.3. Research question: Do men and women experience different types of psychotic symptoms?

#### 3.3.1. Gender differences in number of symptoms

In order to explore gender differences in the number of psychotic symptoms experienced, the number of specific symptoms reported by men and women were analysed using independent samples Mann-Whitney U tests. The non-parametric Mann-Whitney U test was used as the data did not meet the assumptions for a parametric analysis, specifically the data was not normally distributed. Table 2 details the total and mean number of symptoms experienced by men and women in the sample, split by symptom categories.

**Table 2. Number of symptoms experienced**

Symptom	Male total	Male mean	Female total	Female mean
DELUSIONS	179*	2.24	151	1.89
HALLUCINATIONS	107	1.34	139*	1.74
THOUGHT DISORDER	162*	2.03	121	1.51
CATATONIA	4	0.05	6	0.08
NEGATIVE SYMPTOMS	104***	1.30	58	0.73
Total symptoms	556**	6.95	475	5.94

\* Significant at the .05 level

\*\* Significant at the .01 level

Men experienced a greater total number of psychotic symptoms than women. In total, 556 types of psychotic symptom were experienced by men, equating to an average of 6.95 types of symptom per participant. 475 types of psychotic symptom were experienced by women, equating to 5.94 types of delusion per participant. An independent samples Mann-Whitney U test was performed to determine if there were significant gender differences in the total number of symptoms reported for participants. Male participants experienced a significantly greater total number of symptoms than female participants ( $U(159) = 2380.5, p = .005$ ). A Cohen's  $d$  of  $-.52$  was derived from this  $t$  statistic, indicating a medium effect size (Cohen, 1988).

Independent samples Mann-Whitney U tests were also performed to determine if there were significant gender differences in symptom categories: delusions, hallucinations, thought disorder, catatonia and negative symptoms.

Men experienced a significantly greater number of symptoms of thought disorder than women ( $U(159) = -2525.5, p = .018$ ). A Cohen's  $d$  of  $-0.38$  was derived, indicating a small effect size. In total, 162 types of thought disorder were experienced by men, equating to 2.03 symptoms of thought disorder per participant on average. 121 types of thought disorder were experienced by women, equating to 1.51 types of thought disorder per participant on average. Men also experienced significantly more negative symptoms than women ( $U(159) = -2344.0, p = .001$ ). A Cohen's  $d$  of  $-.51$  indicated a medium effect size. In total, 104 types of negative symptoms were experienced by men, equating to 1.30 types of negative symptom per participant on average. 58 types of negative symptom were experienced by women, equating to 0.73 types of negative symptom per participant. Men also experienced a significantly greater number of delusions than women ( $U(159) = -2578.5, p = .029$ ). A Cohen's  $d$  of  $-.46$  was derived, indicating a small effect size. In total, 179 types of delusion were experienced by men, equating to 2.24 types of delusion per participant on average. 151 types of delusion were experienced by women, equating to 1.89 types of delusion per participant.

Women experienced a significantly greater number of hallucinations than males ( $U(159) = -2545.5, p = .019$ ). A Cohen's  $d$  of  $-.38$  indicated a small effect size. In total, 139 types of hallucination were experienced by women, equating to 1.74 types of hallucination per participant on average. 107 types of hallucination were experienced by men, equating to 1.34 types of hallucination per participant.

There were no significant gender differences in the number of symptoms of catatonia ( $U(159) = -3120.0, p = .746$ ).

### 3.3.2. Gender differences in specific types of symptoms

Table 3 details the prevalence of specific psychotic experiences reported in the sample. The most common psychotic experiences were delusions, which were experienced by 144 participants (76 male and 68 female), specifically suspicious or persecutory delusions, which were experienced by 135 participants (72 male and 63 female). This was followed by hallucinations, which were experienced by 130 participants (64 male and 66 female), specifically auditory hallucinations, which were experienced by 124 participants (60 male and 64 female).

Independent samples chi squared tests were performed to determine if there were significant gender differences in specific psychotic symptoms. Fisher's exact tests were used where one or more cell contained fewer than five participants. In order to reduce the risk of Type I errors, a conservative significance level of .025 was set, because of the high number of analyses performed (Feise, 2002). Table 3 details the gender differences in the experience of specific psychotic symptoms, with significant findings marked.

**Table 3. Types of psychotic symptoms experienced**

<b>Symptom</b>	<b>Total (%)</b>	<b>Male (%)</b>	<b>Female (%)</b>
<b>DELUSIONS</b>	144 (90.0)	76 (47.5)	68 (42.5)
Grandiosity	49 (30.6)	36 (22.5)***	13 (8.1)
Suspicious/ persecutory	135 (84.4)	72 (45.0)	63 (39.4)
Erotomanic	5 (3.1)	1 (0.6)	4 (2.5)
Somatic	31 (19.4)	15 (9.4)	16 (10.0)
Reference	48 (30.0)	26 (16.3)	22 (13.8)
Nihilistic	8 (5.0)	5 (3.1)	3 (1.9)
Control	34 (21.3)	12 (7.5)	22 (13.8)
Other	20 (12.5)	12(7.5)	8 (5.0)
<b>HALLUCINATIONS</b>	130 (81.3)	64 (40.0)	66 (41.3)
Auditory	124 (77.5)	60 (37.5)	64 (40.0)
Visual	77 (48.1)	33 (20.6)	44 (27.5)
Tactile	32 (20.0)	10 (6.3)	22 (13.8)*
Olfactory	13 (8.1)	4 (2.5)	9 (5.6)
<b>THOUGHT DISORDER</b>	123 (76.9)	70 (43.8)**	53 (33.1)
Excitement	60 (37.5)	29 (18.1)	31 (19.4)
Hostility	73 (45.6)	49 (30.6)***	24 (15.0)
Thought insertion	20 (12.5)	9 (5.6)	11 (6.9)
Thought withdrawal	7 (4.4)	4 (2.5)	3 (1.9)
Thought broadcast	25 (15.6)	14 (8.8)	11 (6.9)
Thought block	15 (9.4)	8 (5.0)	7 (4.4)
Incoherence	14 (8.8)	7 (4.4)	7 (4.4)
Tangentiality	34 (21.3)	18 (11.3)	16 (10.0)
Pressure of speech	35 (21.9)	24 (15.0)*	11 (6.9)
<b>CATATONIA</b>	10 (6.3)	4 (2.5)	6 (3.8)
<b>NEGATIVE SYMPTOMS</b>	79 (49.4)	48 (30.0)*	31 (19.4)
Blunted affect	24 (15.0)	14 (8.8)	10 (6.3)
Emotional withdrawal	4 (2.5)	2 (1.3)	2 (1.3)
Social withdrawal	52 (32.5)	37 (23.1)***	15 (9.4)
Difficulty in abstract thinking	2 (1.3)	1 (0.6)	1 (0.6)
Stereotyped thinking	1 (0.6)	0 (0.0)	1 (0.6)
Poverty of speech	16 (10.0)	9 (5.6)	7 (4.4)
Anhedonia	12 (7.5)	7 (4.4)	5 (3.1)
Avolition	46 (28.8)	30 (18.8)*	16 (10.0)
Cognitive deficit	5 (3.1)	4 (2.5)	1 (0.6)

\* Significant at the .05 level

\*\* Significant at the .01 level

\*\*\* Significant at the .001 level

Analyses demonstrated that significant gender differences exist within the broad symptoms categories of thought disorder and negative symptoms. Gender differences were also demonstrated for the specific symptoms of grandiose delusions, tactile hallucinations, hostility, pressure of speech, thought withdrawal, and avolition.

Men are significantly more likely than women to experience grandiose delusions ( $\chi^2 (1) = 15.562$ ,  $p < .001$ ). A Phi value was derived from this statistic, indicating a medium effect size (Phi = .312).

Men are significantly more likely to experience symptoms of thought disorder ( $\chi^2 (1) = 10.160$ ,  $p = .001$ ). Phi was derived from this statistic, indicating a small effect size (Phi = .25). Specifically, men are significantly more likely to experience symptoms of hostility ( $\chi^2 (1) = 15.746$ ,  $p < .001$ ) and pressure of speech ( $\chi^2 (1) = 6.181$ ,  $p = .013$ ). Phi values were derived from these statistics, indicating medium and small effect sizes respectively (Phi = .038 and Phi = .197).

Men are significantly more likely to experience negative symptoms of psychosis ( $\chi^2 (1) = 7.226$ ,  $p = .007$ ). Phi was derived from this statistic, indicating a small effect size (Phi = .213). Specifically, men are significantly more likely to experience symptoms of social withdrawal ( $\chi^2 (1) = 13.789$ ,  $p < .001$ ) and avolition ( $\chi^2 (1) = 5.980$ ,  $p = .014$ ). Phi values were derived from these statistics, indicating small effect sizes (Phi = .294 and Phi = .193).

Women are significantly more likely to experience tactile hallucinations ( $\chi^2 (1) = 5.625$ ,  $p = .018$ ). A Phi value was derived from this statistic, indicating a small effect size (Phi = .188).

### 3.4. Research question: Do demographic factors, including a history of abuse and substance use, account for any differences in presentation between men and women?

#### 3.4.1. Gender differences in histories

Table 4 details the rates of reported historical experiences for the total sample. Substance use was the most commonly reported experience in the sample. 84 participants (57 men and 27 women) had either previously used, or were currently using, substances. The next most frequently reported experience was childhood bullying which was experienced by 38 participants (23 men and 15 women). Adult physical abuse and childhood physical abuse followed, experienced by 31 and 28 participants respectively. Childhood sexual abuse was reported by 17 participants (4 men and 13 women).

**Table 4. Histories of substance use and abuse**

History	Total (%)	Male (%)	Female (%)
Substance use	84 (52.5)	57 (35.6)***	27 (16.9)
Childhood bullying	38 (23.8)	23 (14.4)	15 (9.4)
Childhood physical abuse	28 (17.5)	14 (8.8)	14 (8.8)
Childhood emotional abuse	13 (8.1)	5 (3.1)	8 (5.0)
Childhood sexual abuse	17 (10.6)	4 (2.5)	13 (8.1)*
Childhood neglect	8 (5.0)	5 (3.1)	3 (1.9)
Childhood domestic violence	14 (8.8)	8 (5.0)	6 (3.8)
Adult sexual abuse	14 (8.8)	2 (1.3)	12 (7.5)*
Adult emotional abuse	3 (1.9)	1 (0.6)	2 (1.3)
Adult physical abuse	31 (19.4)	14 (8.8)	17 (10.6)

\* Significant at the .05 level

\*\* Significant at the .01 level

\*\*\* Significant at the .001 level

Independent samples chi squared tests were performed to determine if there were significant gender differences in participants' substance and abuse histories.

These analyses demonstrated that men are significantly more likely to have a history of substance use compared to women ( $\chi^2 (1) = 22.556, p < .001$ ). A Phi value was derived from this statistic, indicating a medium effect size (Phi = -.372). The analyses also demonstrated that women are significantly more likely

to have a history of childhood sexual abuse ( $\chi^2 (1) = 5.331$ ,  $p = .021$ ) and adult sexual abuse ( $\chi^2 (1) = 7.828$ ,  $p = .005$ ) compared to men ( $\chi^2 (1) = 10.160$ ,  $p = .001$ ). Phi values were derived from these statistics, indicating small effect sizes (Phi = .021 and Phi = .221).

#### 3.4.2. Gender differences in relationship between histories and symptoms

Independent samples chi squared tests were performed to determine if there were gender differences in the associations between histories and symptoms. Fisher's exact probability tests were calculated in cases where at least 20% of cells had expected frequencies of less than 5 (Dancey & Reidy, 2011). Table 5 details the analyses which demonstrate significant associations between history, symptom and gender.



**Table 5. Relationship between abuse history and symptoms, with relation to gender**

History	Symptom	Chi Squared, Effect Size	Gender Analysis (Chi squared, Effect size, Gender)
Substance use	Grandiosity	$\chi^2 (1) = 8.08, p = .004, \Phi = .23$	-
	Suspicious/ persecutory	$\chi^2 (1) = 4.99, p = .025, \Phi = .18$	-
	THOUGHT DISORDER	$\chi^2 (1) = 7.77, p = .005, \Phi = .22$	-
	Pressure of speech	$\chi^2 (1) = 16.56, p < .001, \Phi = .32$	$\chi^2 (1) = 13.18, p < .001, \Phi = .41$ (Female)***
Childhood bullying	Social withdrawal	-	$\chi^2 (1) = 5.35, p = .021, \Phi = .26$ (Female)*
Childhood physical abuse	Thought broadcast	Fisher's exact, $p = .018, \Phi = .21$	Fisher's exact, $p = .002, \Phi = .39$ (Male)*
Childhood emotional abuse	Emotional withdrawal	Fisher's exact, $p = .002, \Phi = .25$	-
Childhood sexual abuse	NEGATIVE SYMPTOMS	$\chi^2 (1) = 10.76, p = .001, \Phi = -.26$	$\chi^2 (1) = 6.32, p = .012, \Phi = -.28$ (Male)*
	Avolition	Fisher's exact, $p = .003, \Phi = -.22$	-
Childhood domestic violence	Thought insertion	-	Fisher's exact, $p = .003, \Phi = .44$ (Female)*
	Thought withdrawal	-	Fisher's exact, $p = .014, \Phi = .44$ (Female)*
	Thought broadcast	Fisher's exact, $p = .010, \Phi = .23$	-
	NEGATIVE SYMPTOMS	$\chi^2 (1) = 5.23, p = .022, \Phi = .18$	-
	Social withdrawal	Fisher's exact, $p = .014, \Phi = .21$	-
Adult sexual abuse	Thought insertion	Fisher's exact, $p = .018, \Phi = .22$	Fisher's exact, $p = .011, \Phi = .45$ (Male)*

\* Significant at the .05 level

\*\* Significant at the .01 level

\*\*\* Significant at the .001 level

#### 3.4.2.1. *Relationships that held for both genders*

The following relationships were found to hold for both men and women:

A history of substance use is related to the presence of grandiose delusions ( $\chi^2 (1) = 8.078$ ,  $p = .004$ ,  $\Phi = .225$ ), suspicious/ persecutory delusions ( $\chi^2 (1) = 4.993$ ,  $p = .025$ ,  $\Phi = .177$ ) and symptoms of thought disorder ( $\chi^2 (1) = 7.772$ ,  $p = .005$ ,  $\Phi = .220$ ) for both men and women. A history of childhood emotional abuse is related to the presence of emotional withdrawal (Fisher's exact,  $p = .002$ ,  $\Phi = .245$ ) for both men and women. A history of childhood sexual abuse is related to the presence of avolition for both men and women (Fisher's exact,  $p = .003$ ,  $\Phi = -.219$ ). A history of childhood domestic violence is related to the presence of thought broadcast (Fisher's exact,  $p = .010$ ,  $\Phi = .232$ ), negative symptoms ( $\chi^2 (1) = 5.232$ ,  $p = .022$ ,  $\Phi = .181$ ) and social withdrawal (Fisher's exact,  $p = .014$ ,  $\Phi = .210$ ) for both men and women.

#### 3.4.2.2. *Relationships that held for men but not women*

The following relationships were true for men but not women:

A history of childhood physical abuse is related to the presence of thought broadcast (Fisher's exact,  $p = .018$ ,  $\Phi = .210$ ). However, analysis by gender demonstrated that men (but not women) with a history of childhood physical abuse are more likely to present with thought broadcast (Fisher's exact,  $p = .002$ ,  $\Phi = .394$ ). A history of childhood sexual abuse is related to the presence of negative symptoms ( $\chi^2 (1) = 10.764$ ,  $p = .001$ ,  $\Phi = -.259$ ). However, analysis by gender demonstrated that men (but not women) with a history of childhood sexual abuse are more likely to present with negative symptoms ( $\chi^2 (1) = 6.316$ ,  $p = .012$ ,  $\Phi = -.281$ ). A history of adult sexual abuse is related to the presence of thought insertion (Fisher's exact,  $p = .018$ ,  $\Phi = .217$ ). When analysed by gender, analyses demonstrated that men (but not women) with a history of adult sexual abuse are more likely to present with thought insertion (Fisher's exact,  $p = .011$ ,  $\Phi = .450$ ).

### 3.4.2.3. *Relationships that held for women but not men*

The following relationships were true for women but not men:

A history of substance use is related to the presence of pressure of speech ( $\chi^2 (1) = 16.556$ ,  $p < .001$ ,  $\Phi = .322$ ). Analysis by gender demonstrated that women (but not men) with a history of substance use are more likely to present with pressure of speech ( $\chi^2 (1) = 13.179$ ,  $p < .001$ ,  $\Phi = .406$ ). A history of childhood bullying is related to the presence of social withdrawal, only when analysed by gender. This suggests that women (but not men) with a history of childhood bullying are more likely to present with social withdrawal ( $\chi^2 (1) = 5.345$ ,  $p = .021$ ,  $\Phi = .258$ ). A history of childhood domestic violence is related to the presence of thought insertion and thought withdrawal, only when analysed by gender. Women (but not men) with a history of childhood domestic violence are more likely to present with thought insertion (Fisher's exact,  $p = .003$ ,  $\Phi = .438$ ) and thought withdrawal (Fisher's exact,  $p = .014$ ,  $\Phi = .443$ ).

## **3.5. Research question: Does the content of psychotic experiences differ for men and women?**

### 3.5.1. Themes and sub-themes of psychotic symptoms

The thematic analysis revealed 30 themes of psychotic symptoms, with 105 sub-themes. Due to the breadth of experience reported by participants, not all themes and sub-themes will be examined in detail in this section. A detailed list of themes and sub-themes with definitions and examples is included in Appendix 7.

Independent samples chi squared tests were performed to determine if there were significant gender differences in the themes of the content of psychotic symptoms. Fisher's exact probability tests were calculated in cases where at least 20% of cells had expected frequencies of less than 5 (Dancey & Reidy, 2011). A significance level of .025 was used to account for the number of analyses performed (Feise, 2002).

Table 6 details the themes and sub-themes revealed by the thematic analysis as well as the number of participants overall (and men and women separately) who reported symptoms related to each. The themes and sub-themes that were found to have a significant relationship with gender according to a chi squared analysis are marked. All of the analyses described below had a small effect size.

**Table 6. Summary of themes and sub-themes**

<b>THEME/ Sub-theme</b>	<b>Total (%)</b>	<b>Male (%)</b>	<b>Female (%)</b>
BEING HARMED, ATTACKED OR KILLED	88 (55.0)	51 (63.8)	37 (46.3)
Being harmed, attacked or killed (non-specific)	66 (41.3)	41 (51.3)*	25 (31.3)
Poison	12 (7.5)	8 (10.0)	4 (5.0)
Black magic/ curse	14 (8.8)	8 (10.0)	6 (7.5)
Break in/ intruders	20 (12.5)	11 (13.8)	9 (11.3)
Theft	7 (4.4)	3 (3.8)	4 (5.0)
People harming family members	21 (13.1)	8 (10.0)	13 (16.3)
BEING MONITORED OR FOLLOWED BY OTHERS	77 (48.1)	39 (48.8)	38 (47.5)
Being monitored or followed by others (non-specific)	47 (29.4)	22 (27.5)	25 (31.3)
Monitored by known people	14 (8.8)	8 (10.)	6 (7.5)
Monitored by electronic devices	33 (20.6)	19 (23.8)	14 (17.5)
Monitored by authorities, police or government organisations	10 (6.3)	8 (10.0)	2 (2.5)
Followed by others	27 (16.9)	12 (15.0)	15 (18.8)
BEING TALKED/ LAUGHED ABOUT/ LOOKED AT	48 (30.0)	26 (32.5)	22 (27.5)
People talking about them	36 (22.5)	21 (26.3)	15 (18.8)
People laughing about them	10 (6.3)	6 (7.5)	4 (5.0)
People looking at them	19 (11.9)	8 (10.0)	11 (13.8)
CONSPIRACY	37 (23.1)	24 (30.0)	13 (16.3)
Conspiracy (non-specific)	18 (11.3)	9 (11.3)	9 (11.3)
Family conspiring against them	17 (10.6)	10 (12.5)	7 (8.8)
Authorities, police or government organisations conspiring against them	8 (5.0)	6 (7.5)	2 (2.5)
Conspiracy with mental health services	8 (5.0)	6 (7.5)	2 (2.5)
DISTRUST OF MENTAL HEALTH SERVICES/ TREATMENT	30 (18.8)	17 (21.3)	13 (16.3)
Mental health staff	22 (13.8)	14 (17.5)	8 (10.0)
Medication	10 (6.3)	4 (5.0)	6 (7.5)
THINGS ARE NOT REAL	15 (9.4)	6 (7.5)	9 (11.3)
People are not who they seem	10 (6.3)	1 (1.3)	9 (11.3)**
Everything is a movie/ game/ simulation	5 (3.1)	5 (6.3)	0 (0.0)
GUILT	9 (5.6)	5 (6.3)	4 (5.0)
BODY IS CHANGED OR DAMAGED	40 (25.0)	16 (20.0)	23 (28.8)
Body is changed or damaged (non-specific)	19 (11.9)	8 (10.0)	11 (13.8)
Genitals/ sexual organs	7 (4.4)	6 (7.5)	1 (1.3)

Objects inserted/ removed from body	9 (5.6)	6 (7.5)	3 (3.8)
Pregnancy	10 (6.3)	0 (0.0)	10 (12.5)**
Dirty or malodorous	6 (3.8)	1 (1.3)	5 (6.3)
RELATIONSHIPS	12 (7.5)	6 (7.5)	6 (7.5)
Unfaithfulness	5 (3.1)	5 (6.3)	0 (0.0)
Delusional relationship	7 (4.4)	1 (1.3)	6 (7.5)
SOMETHING BAD IS GOING TO HAPPEN	19 (11.9)	11 (13.8)	8 (10.0)
Something bad is going to happen (non-specific)	7 (4.4)	3 (3.8)	4 (5.0)
Large-scale disaster	5 (3.1)	4 (5.0)	1 (1.3)
Impending death	7 (4.4)	4 (5.0)	3 (3.8)
POSSESSION OR CONTROL	32 (20.0)	11 (13.8)	21 (26.3)
Possession or control (non-specific)	10 (6.3)	4 (5.0)	6 (7.5)
Thoughts are being controlled	9 (5.6)	6 (7.5)	3 (3.8)
Actions are being controlled	12 (7.5)	6 (7.5)	6 (7.5)
Known person is controlling them	6 (3.8)	3 (3.8)	3 (3.8)
Organisation is controlling them	5 (3.1)	3 (3.8)	2 (2.5)
Devil, demon or spirit is controlling them	5 (3.1)	0 (0.0)	5 (6.3)
SOURCE OF NEGATIVE EXPERIENCE	93 (58.1)	51 (63.8)	42 (52.5)
Neighbours/ flatmates	19 (11.9)	11 (13.8)	8 (10.0)
Colleagues	5 (3.1)	2 (2.5)	3 (3.8)
Authorities, police or government organisations	19 (11.9)	12 (15.0)	7 (8.8)
Mental health staff	26 (16.3)	15 (18.8)	11 (13.8)
Devil/ demon/ spirit	23 (14.4)	10 (12.5)	13 (16.3)
Family	24 (15.0)	13 (16.3)	11 (13.8)
Parents	17 (10.6)	7 (8.8)	10 (12.5)
Partner/ ex-partner	10 (6.3)	4 (5.0)	6 (7.5)
Friends	7 (4.4)	5 (6.3)	2 (2.5)
Miscellaneous	14 (8.8)	9 (11.3)	5 (6.3)
RELIGIOUS	33 (20.6)	18 (22.5)	15 (18.8)
Demons/ devil/ evil spirit	19 (11.9)	9 (11.3)	10 (12.5)
Prophecy	12 (7.5)	7 (8.8)	5 (6.3)
Divine mission	10 (6.3)	6 (7.5)	4 (5.0)
In communication with God	14 (8.8)	7 (8.8)	7 (8.8)
RECEIVING MESSAGES OR SIGNS	45 (28.1)	25 (31.3)	20 (25.0)
Signs/ connections	13 (8.1)	9 (11.3)	4 (5.0)
Messages	35 (21.9)	19 (23.8)	16 (20.0)
SUCCESSFUL/ POWERFUL/ IMPORTANT	24 (15.0)	15 (18.8)	9 (11.3)
Successful/ powerful/ important (non-specific)	8 (5.0)	7 (8.8)	1 (1.3)
Achievement/ wealth	8 (5.0)	5 (6.3)	3 (3.8)
Position of power/ influence	20 (12.5)	13 (16.3)	7 (8.8)
Connection to royalty	6 (3.8)	4 (5.0)	2 (2.5)
SPECIAL POWERS OR ABILITIES	33 (20.6)	25 (31.3)***	8 (10.0)
Special powers or abilities (non-specific)	26 (16.3)	21 (26.3)***	5 (6.3)
Telepathy or advanced communication/ understanding	12 (7.5)	9 (11.3)	3 (3.8)
COMMANDING VOICE	83 (51.9)	41 (51.3)	42 (52.5)
Commanding voice (non-specific)	47 (29.4)	24 (30.0)	23 (28.8)
To kill/ harm self	49 (30.6)	22 (27.5)	27 (33.8)

To kill/ harm others	38 (23.8)	20 (25.0)	18 (22.5)
DEROGATORY/CRITICAL VOICE	58 (36.3)	26 (32.5)	32 (40.0)
Derogatory/critical voice (non-specific)	38 (23.8)	15 (18.8)	23 (28.8)
Worthless/ unwanted/ unloved	9 (5.6)	2 (2.5)	7 (8.8)
Stupid	6 (3.8)	1 (1.3)	5 (6.3)
Sexuality	5 (3.1)	5 (6.3)	0 (0.0)
Appearance	7 (4.4)	1 (1.3)	6 (7.5)
Evil/ bad	9 (5.6)	5 (6.3)	4 (5.0)
Actions	9 (5.6)	4 (5.0)	5 (6.3)
COMMENTARY	15 (9.4)	8 (10.0)	7 (8.8)
THREATENING/ WARNING VOICE	35 (21.9)	14 (17.5)	21 (26.3)
Threatening/ warning voice (non-specific)	8 (5.0)	3 (3.8)	5 (6.3)
Threat to harm them	9 (5.6)	1 (1.3)	8 (10.0)
Threat to harm others	5 (3.1)	1 (1.3)	4 (5.0)
Threat related to voices	6 (3.8)	6 (7.5)	0 (0.0)
Warnings/ reminders	20 (12.5)	12 (15.0)	8 (10.0)
A VOICE CALLING THEIR NAME	12 (7.5)	5 (6.3)	7 (8.8)
A POSITIVE VOICE	26 (16.3)	13 (16.3)	13 (16.3)
A positive voice (non-specific)	19 (11.9)	9 (11.3)	10 (12.5)
Reassuring/ encouraging	7 (4.4)	5 (6.3)	2 (2.5)
Protection from negative voices	6 (3.8)	3 (3.8)	3 (3.8)
VOICES TALKING TO EACH OTHER	22 (13.8)	9 (11.3)	13 (16.3)
Talking about them	14 (8.8)	6 (7.5)	8 (10.0)
Talking/ arguing amongst themselves	13 (8.1)	4 (5.0)	9 (11.3)
VOICES IN ANOTHER LANGUAGE	6 (3.8)	1 (1.3)	5 (6.3)
SOURCE OF VOICE	76 (47.5)	37 (46.3)	39 (48.8)
Family	15 (9.4)	8 (10.0)	7 (8.8)
Parent	9 (5.6)	3 (3.8)	6 (7.5)
Friend/ partner	9 (5.6)	4 (5.0)	5 (6.3)
Celebrity/ fictional character	6 (3.8)	3 (3.8)	3 (3.8)
A named voice	9 (5.6)	6 (7.5)	3 (3.8)
God	14 (8.8)	7 (8.8)	7 (8.8)
Miscellaneous	18 (11.3)	8 (10.0)	10 (12.5)
An unknown person	24 (15.0)	11 (13.8)	13 (16.3)
HEARING NOISES	34 (21.3)	11 (13.8)	23 (28.9)*
Hearing noises (non-specific)	10 (6.3)	2 (2.5)	8 (10.0)
Inanimate noises	10 (6.3)	4 (5.0)	6 (7.5)
Crying/ screaming	5 (3.1)	2 (2.5)	3 (3.8)
Whispering/ mumbling	9 (5.6)	3 (3.8)	6 (7.5)
Laughter	11 (6.9)	2 (2.5)	9 (11.3)
TACTILE HALLUCINATIONS	26 (16.4)	7 (8.8)	19 (23.8)**
Animals/ insects	11 (6.9)	2 (2.5)	9 (11.3)
Being touched	12 (7.5)	1 (1.3)	11 (13.8)**
Vibrations/ itching/ burning	9 (5.6)	4 (5.0)	5 (6.3)
FEELING A PRESENCE/ SPIRIT	7 (4.4)	1 (1.3)	6 (7.5)

VISUAL HALLUCINATIONS	68 (42.5)	28 (35.0)	40 (50.0)
Visual hallucinations (non-specific)	14 (8.8)	5 (6.3)	9 (11.3)
People or faces	30 (18.8)	10 (12.5)	20 (25.0)
Family members	12 (7.5)	7 (8.8)	5 (6.3)
Shadows or figures	19 (11.9)	8 (10.0)	11 (13.8)
Religious figures	10 (6.3)	3 (3.8)	7 (8.8)
Animals/ insects	10 (6.3)	3 (3.8)	7 (8.8)
Distorted images	5 (3.1)	2 (2.5)	3 (3.8)
Lights/ shapes/ colours	6 (3.8)	3 (3.8)	3 (3.8)
Death/ blood	5 (3.1)	0 (0.0)	5 (6.3)
ALTERED TASTE OR SMELL	11 (6.9)	4 (5.0)	7 (8.8)

\* Significant at the .05 level

\*\* Significant at the .01 level

\*\*\* Significant at the .001 level

### 3.5.2. Themes more common for men

Analysis demonstrated that men were more likely to experience delusions related to the themes of:

- Special powers or abilities
- Being harmed, attacked or killed (non-specific)

#### 3.5.2.1. *Special powers or abilities*

Men were significantly more likely to experience a belief that they have special powers or abilities ( $\chi^2 (1) = 11.03$ ,  $p < .001$ ,  $\Phi = -.263$ ). This theme, defined as the belief that they have special powers, abilities or strength, was made up of the sub-themes special powers or abilities (non-specific) and telepathy or advanced communication/ understanding. The overall theme was experienced by 25 men and 8 women and included:

“He has special de-coding power that mean he can unlock numbers on the TV that will reveal a major international secret” [P4, Male]

“Could make himself invisible on the spot if he wanted to” [P10, Male]

#### 3.5.2.2. *Being harmed, attacked or killed (non-specific)*

Men were significantly more likely to experience a belief that they will be harmed, attacked or killed compared to women ( $\chi^2 (1) = 6.60$ ,  $p=.010$ ,  $\Phi = -.203$ ). Defined as a belief that someone is intending to or has attempted to harm, attack or kill them, this sub-theme theme was experienced by 41 men compared to 25 women.

Examples include:

“People are trying to kill him” [P1, Male]

“People are going to hurt him” [P22, Male]

#### 3.5.3. Themes more common for women

Analysis demonstrated that women were more likely to experience delusions and hallucinations related to the themes of:

- Tactile hallucinations
- Feeling of being touched
- People are not who they seem
- Hearing noises
- Devil, demon or spirit is controlling them

##### 3.5.3.1. *Tactile hallucinations*

Women were significantly more likely to experience tactile hallucinations compared to men ( $\chi^2 (1) = 6.61$ ,  $p=.010$ ,  $\Phi = -.203$ ). Defined as feeling things that are not there, this theme included the following sub-themes: animals/insects, being touched, and vibrations/ itching/ burning. It was experienced by 7 men and 19 women. It included:

“Feels insects crawling on her skin when she is about to fall asleep” [P63, Female]

“A burning sensation all over her body” [P123, Female]



### 3.5.3.2. *Tactile hallucination of being touched*

Women were also significantly more likely to experience tactile hallucinations specifically related to the theme of being touched compared to men ( $\chi^2 (1) = 9.00$ ,  $p = .003$ ,  $\Phi = .237$ ). This sub-theme was defined as feeling someone or something touching them. This was experienced by 11 women and 1 man, and included:

“Feelings of people tickling her” [P63, Female]

“Feeling of others touching her (tapping on her shoulder)” [P157, Female]

### 3.5.3.3. *People are not who they seem*

Women were significantly more likely to experience a belief that people are not who they seem compared to men ( $\chi^2 (1) = 6.82$ ,  $p = .009$ ,  $\Phi = .207$ ). Defined as the belief that people around them are imposters, actors or not who they say they are, this sub-theme was experienced by 9 women and 1 man. Examples include:

“Actors are pretending to be nurses, doctors” [P67, Female]

“Her mother was an imposter and that she has a biological mother somewhere” [P63, Female]

### 3.5.3.4. *Hearing noises*

Women were significantly more likely to hear noises compared to men ( $\chi^2 (1) = 5.37$ ,  $p = .020$ ,  $\Phi = .183$ ). Defined as hearing noises that other cannot, this theme included the following sub-themes: inanimate noises, crying/ screaming, whispering/ mumbling, and laughter. The theme was experienced by 11 men and 23 women and included:

“Hears someone knocking when there is no one there” [P72, Female]

“Hearing a buzzing sound” [P45, Female]

#### 3.5.4. Non-significant trends

Several themes and subthemes were experienced by only one gender in the present sample. For men, this included a belief that the world around them is a movie, game or simulation, a belief that a partner or other family member is being unfaithful and the experience of voices which make derogatory comments related to their sexuality. These beliefs were experienced by 5 men (per theme) and no women. Similarly, it is noted that themes exclusively reported by women included a belief that a devil, demon or spirit is controlling them, and visual hallucinations related to visions of death or blood. These beliefs were experienced by 5 women (per theme) and no men. However, these gender differences were non-significant trends, i.e. did not meet statistical significance, and therefore require replication and must be interpreted with caution.

## **4. DISCUSSION**

### **4.1. Overview**

This chapter will briefly reiterate the study aims and findings, followed by discussion of the sample characteristics. The results of the main analyses will be considered as they pertain to each research question and considered in the context of existing literature. The strengths, limitations and implications (both research and clinical) will then be outlined. Additionally, a reflexive account of the research process will be provided before final conclusions are given.

### **4.2. Study aims**

This study aimed to explore gender differences in the presentation of psychotic symptoms. Three research questions guided this exploration:

1. Do men and women experience different types of psychotic symptoms?
2. Does the content of psychotic experiences differ for men and women?
3. Do demographic factors, including a history of abuse and substance use, account for any differences in presentation between men and women?

### **4.3. Sample characteristics**

This study's sample comprised of 160 participants who had been referred to one of two EIPS. Data was collected for 80 men and 80 women, to ensure that any observed gender differences in psychotic symptoms cannot be accounted for by unequal samples (Wahl & Hunter, 1992). Participants had a range of diagnoses including 'mental and behavioural disorder due to substance use' (16% men, 6% women), 'paranoid schizophrenia' (12% men, 6% women) and 'unspecified nonorganic psychosis' (10% men, 14% women). This diagnostic profile was reflective of first episode psychosis populations (Conrad et al., 2014). Within this sample, 22% of men and 25% of women did not have a diagnosis listed in the medical records. This is consistent with the approach of diagnostic uncertainty employed in EIPS (Baird et al., 2012). The sample was collected from two EIPS which serve two London boroughs to ensure that participants from a range of socio-economic and demographic backgrounds were included in the sample.

The findings of the present study, discussed in detail below, include several findings consistent with existing research. This confirms the validity of the sample used and permits some degree of confidence in some of the novel findings that also emerged.

#### **4.4. Research question: Do men and women experience different types of psychotic symptoms?**

This research question was explored by recording the presence or absence of categories of psychotic symptoms (namely delusions, hallucinations, thought disorder catatonia and negative symptoms) for each participant. Additionally, the presence of specific categories of symptoms was recorded for each participant (e.g. grandiose or somatic delusions, auditory or tactile hallucinations).

##### **4.4.1. Total symptoms**

Men presented with a significantly greater number of total symptoms than women. There is a paucity of existing research which explicitly examines gender differences in the total number of symptoms presented. However, this finding is consistent with several studies which demonstrate that men have higher symptom scores, and therefore more severe symptoms, than women on standardised measures of psychosis e.g. PANSS (de Portugal et al., 2010; Drake et al., 2016).

This finding also complements research which demonstrates that men have a more severe presentation and more malign illness course, including lower rates of remission and more days of hospitalisation (Ochoa et al., 2012; Morgan et al., 2008). In their review of the literature, Díaz-Caneja et al. (2015) concluded that symptom severity is a well replicated predictor of worse clinical and functional outcomes. Though there are many factors involved in the course of psychosis, including length of contact with services, engagement with services and compliance with medication (Theuma et al., 2007), it is hypothesised that the more severe presentation seen in men may be related to their experience of a greater number of symptoms compared to women.

#### 4.4.2. Delusions

Men experienced a significantly greater number of delusions than women. This is an unexpected finding given the research base which suggests that women are more likely to experience positive symptoms (i.e. hallucinations and delusions) than men (Baldwin & Srivastava, 2015; Hambrecht et al., 1992; Tang et al., 2007). It is hypothesised that this failure to replicate existing research findings may be related to high rates of substance use in this sample, which will be discussed in Section 4.6.2.2.

Furthermore, men in this sample were significantly more likely to experience grandiose delusions, which is consistently documented in the research literature (Chu et al., 1989; Menon et al., 1980).

#### 4.4.3. Hallucinations

Women presented with significantly more hallucinations in general than men. This is consistent with the research base which demonstrates that women are more likely to experience positive symptoms than men (Baldwin & Srivastava, 2015; Hambrecht et al., 1992; Tang et al., 2007). This is also consistent with several studies that demonstrate that women are more likely to experience hallucinations (Goldstein & Lewine, 2000; Murphy et al., 2010; Sharma et al., 1999; Thorup et al., 2007).

The findings of several large general population studies that women are more likely to experience auditory hallucinations than men (Goldstein & Lewine, 2000; Murphy et al., 2010; Shevlin, Murphy, et al., 2007) were not replicated by this study. Although more women in this sample experienced auditory hallucinations than men, this was not to a statistically significant degree.

However, it was found that women were specifically more likely to experience tactile hallucinations than men. This is consistent with a small body of research which suggests that tactile hallucinations are more frequently experienced by women (Gecici et al., 2010; Murphy et al., 2010). It is hypothesised that this association may be explained by higher rates of childhood sexual abuse documented in women, which will be discussed in in Section 4.6.2.1.

#### 4.4.4. Thought disorder

Men presented with significantly more symptoms of thought disorder than women. This is consistent with a limited existing literature base which suggests that symptoms of disorganisation and thought disorder are more common in men (Galderisi et al., 2012; Kim et al., 2015; Pandurangi et al., 1994; Thorup et al., 2007).

Men were also specifically more likely to present with pressure of speech (or flight of ideas) and hostility. This is consistent with research which suggests that male gender is associated with increased hostility in individuals diagnosed with psychosis and 'schizophrenia' including aggression, disruptiveness and irritability (Bartels, Drake, Wallach, & Freeman, 1991; Ochoa et al., 2013). This is reflective of a male overrepresentation of aggression, particularly physical aggression, in the general population (Archer & Coyne, 2005). However, this finding should be interpreted with caution. The definition of hostility used for data collection was that outlined in the PANSS: "Verbal and nonverbal expressions of anger and resentment, including sarcasm, passive-aggressive behaviour, verbal abuse, and abuseiveness". It is noted by the researcher that this symptom was difficult to code for as it was difficult to distinguish whether reports of hostile or aggressive behaviour in clinical records were related to the individual's psychosis. It is possible that staff reports of hostility and aggression were also influenced by social norms and expectations of aggression in men with mental health problems (Wallace et al., 1998).

Furthermore, it is possible that gender differences in thought disorder observed in this study are related to high rates of substance use in the male sample (as will be discussed in Section 4.6.2.2.). Previous research has highlighted the association between substance use, particularly cannabis use, and presentations of thought disorder and hostility (Caspari, 1999).

#### 4.4.5. Negative symptoms

Men presented with significantly more negative symptoms than women. This is consistent with evidence that negative symptoms are more frequently seen in men (Chang et al., 2011; Drake et al., 2016; Maric et al., 2003; Ochoa et al., 2012; Preston et al., 2002; Rietschel et al., 2017; Segarra et al., 2012; Thorup et al., 2007). Analysis also demonstrated that men are specifically more likely to experience

avolition and social withdrawal. This is consistent with previous research which has demonstrated that men are more likely to experience a range of negative symptoms including avolition (Suhail & Chaudhry, 2006) and social and emotional withdrawal (Groleger & Novak-Grubič, 2010).

Goldstein and Lewine (2000) hypothesise that this represents an exaggeration of typical gender roles in terms of information processing and social relationships. Notions of masculinity traditionally include independence, self-reliance and a reluctance to demonstrate weakness (Courtenay, 2000). It has been demonstrated that men in the general population demonstrate higher levels of constricted affect are more likely to have no close friends compared to women (Raine, 1992). An extreme masculine role, particularly the trait of 'restrictive emotionality', is correlated with the development of psychosis (Good, Robertson, Fitzgerald, Stevens, & Bartels, 1996) and it could be hypothesised that this has particular influence on the development of negative symptoms.

#### **4.5. Research question: Does the content of psychotic experiences differ for men and women?**

This research question was explored by conducting a thematic analysis of the themes of participants' psychotic experiences. Statistical analyses of gender totals were then conducted to establish if men and women were significantly more likely to present with different psychotic symptom content.

The thematic analysis revealed an impressively large number of themes and sub-themes in psychotic symptoms across participants. To the author's knowledge, this is the only study to date that has attempted to comprehensively map the content of psychotic symptoms in a moderately large sample.

#### 4.5.1. Content of psychotic experiences in men

Analysis demonstrated that men were more likely to experience psychotic symptoms related to the themes of:

- Being harmed, attacked or killed
- Special powers or abilities
- Everything is a movie/ game/ simulation
- Unfaithfulness
- Voices that make derogatory comments about their sexuality

##### 4.5.1.1. *Being harmed, attacked or killed*

Men were significantly more likely to experience beliefs that someone was intending to harm, attack or kill them. This theme included sub-themes which reflected the type of harm that may be inflicted on them (poison, black magic or curse, break in, theft) as well as a fear of people harming their family members. This may be considered a suspicious or persecutory delusion, defined by the DSM-5 (APA, 2013) as a “belief that one is going to be harmed, harassed etc by an individual, organisation or other group”. This contradicts research which has demonstrated that women are more likely to experience suspicious and persecutory delusions (Haarmans, 2015; Morgan et al., 2008) and therefore is a largely unexpected finding. However, it is consistent with findings of a large epidemiological study which demonstrated that men were significantly more likely to experience beliefs that others were aiming to hurt them, including specifically by poison (Murphy et al., 2010). It is hypothesised that higher rates of beliefs of harm from others may be related to high levels of substance use in the male sample in the present study, as substance use has been associated with higher levels of suspicious and persecutory delusions (see Section 4.6.2.2).

##### 4.5.1.2. *Special powers or abilities*

Men were significantly more likely to experience beliefs that they have special powers or abilities, including special healing, sensory or decoding abilities. This sub-theme is part of the larger theme, which also includes a belief of telepathy or advanced communication or understanding. This is consistent with the well-replicated finding that men are more likely to experience grandiose delusions (Chu et



al., 1989; de Portugal et al., 2010; Menon et al., 1980) as well as studies which demonstrate that men are specifically more likely to experience grandiose delusions related to the possession of super powers (Suhail, 2003), social status, psychological strength or personal power (Allan & Hafner, 1989).

Previous research has highlighted that the structure of grandiose delusions also differs for men and women. Women are more frequently objects in their delusions i.e. their special qualities were experienced vicariously, usually through an association with powerful or famous people. Contrastingly, men are usually the subjects in their grandiose delusions, i.e. they possessed special qualities directly (Allan & Hafner, 1989). Though the subject of delusions was not analysed directly in the present study, this pattern was observed. When women did experience grandiose delusions, these frequently included themes of experiencing power indirectly through their relationships with powerful men.

It has been hypothesised that grandiose delusions enable the acquisition of attributes lacking in reality (Allan & Hafner, 1989) and that grandiose delusions have a function in defending against low self-esteem (Knowles, McCarthy-Jones, & Rowse, 2011). Allan and Hafner (1989) note that grandiose delusions frequently occur in the context of poor social functioning and social isolation. Gender differences in the rates of grandiose delusions may therefore be explained by well-replicated gender differences found in social functioning and social relationships (Castle et al., 1995; Ochoa et al., 2012; Morgan et al., 2008).

Furthermore, Rhodes and Jakes (2000) highlighted the role of life experiences and perceived pressures on the development of delusional themes. They found that participants who reported long-term interest in 'success' tended to report more grandiose themes. Therefore, it could be hypothesised that greater societal expectations of power and success are placed on men, who are then more likely to defend against failure in the form of grandiose delusions in which they position themselves as powerful.

#### 4.5.1.3. *Everything is a movie/ game/ simulation*

The belief that one is living in a movie, game or simulation was experienced only by men in this sample. This sub-theme was part of the larger theme of 'things are not real' and included reference to the 'Truman Show' and the 'Matrix', as well as ideas of a person's life being a game or simulation. Gender differences for this theme did not meet statistical significance and therefore it is noted this finding must be interpreted with caution.

Existing research on these beliefs is largely limited to case studies describing delusions such as 'the Truman Show delusion' (Gold & Gold, 2012), whereby a person believes that their life is staged for a reality television programme for the entertainment of others. There has been no examination of gender differences in these beliefs to date. Gender differences in these beliefs may be partially explained by the male tendency towards grandiose delusions. Although described as primarily persecutory in form (Gold & Gold, 2012), these delusions can also be conceptualised as grandiose in nature in that a person would need to be important enough for an organisation or group to film them or trick them to such a degree (Bentall, 2003).

The presence of these delusions also provides evidence for the variability of psychotic symptoms across time, including the sensitivity of delusions to culture. Beliefs of a person's life being a movie, game or simulation are situated within a culture of technology, celebrity and surveillance. There is evidence to suggest that delusional content reflects contemporary sociocultural factors, with increases in delusions of control observed following the introduction of radio and television and increases in delusions of being spied upon aligning with technological development (Cannon & Kramer, 2012). As with beliefs that centred on monitoring by electronic devices or suspicion of the internet and social media, which may be related to rapid developments in modern technology (Stompe et al., 2003), these beliefs are culturally-based and time-specific.

#### 4.5.1.4. *Unfaithfulness*

The belief that a partner or family member is being unfaithful was experienced only by men in this sample. This sub-theme is part of the larger theme of 'relationships' and includes beliefs that a spouse is having an affair. Gender differences for this theme did not meet statistical significance and therefore it is noted this finding must be interpreted with caution.

However, this non-significant trend is consistent with existing research suggests that men more frequently present with delusions of jealousy in patient samples (Daly, Wilson, & Weghorst, 1982; Soyka & Schmidt, 2011) and in the general population (Harris, 2003). Evolutionary psychologists propose that this can be understood in terms of natural selection and the different threats posed to men and women. Men are predisposed to experience jealousy related to sexual infidelity due to the threat of cuckoldry and the risk of spending resources on offspring that are not their own. Contrastingly, a more serious risk to women is the loss of a mate's resources for her and her offspring leading to a predisposition for jealousy related to emotional infidelity (Harris, 2003). An alternative explanation is that male "proprietaryness" over women within the context of a patriarchal society can give rise to higher rates of sexual jealousy in men (Wilson & Daly, 1992).

#### 4.5.1.5. *Voices that make derogatory comments about their sexuality*

The experience of voices that comment on sexuality or sexual experience was experienced only by men in this sample. This sub-theme is part of a larger theme relating to 'derogatory or critical voices' and includes instances where men have heard voices which tell them that they are "gay", "a paedophile" or a "rapist". Though too few participants reported voices related to these themes to show statistical significance, it is noted that it was experienced solely by men in this sample. Gender differences for this theme did not meet statistical significance and therefore it is noted this finding must be interpreted with caution.

This is consistent with research findings that men are more likely to experience beliefs related to homosexuality, specifically accusations of homosexuality (Rudden et al., 1983; Gecici et al., 2010; Allan & Hafner, 1989). Mitropoulos et al. (2015) report that 18.3% of men compared to 1.4% of women experience symptoms whose

theme was being accused of homosexuality. Similarly, Legg and Gilbert (2006) report that the most common voice insult for men was that of homosexuality. It is hypothesised that this gender difference can be explained by socialised gender norms regarding sexual prescriptions for men and women (Legg & Gilbert, 2006). Accusations of homosexuality contradict notions of hegemonic, heterosexual masculinity which remain pervasive in modern society (Courteney, 2000). Women appear to be less concerned about homosexuality, as female homosexuality is arguably less stigmatised in society (Rudden et al., 1983). Mitropoulos et al. (2015) found that women's delusions which relate to sexual content more often relate to sexual immorality, rather than sexual orientation. The authors argue that this is reflective of the different societal and cultural prescriptions of gender, whereby men are permitted greater sexual freedom than women but where homosexuality is contrary to the ideals of masculinity.

#### 4.5.2. Content of psychotic experiences in women

Analysis demonstrated that women are more likely to experience psychotic symptoms related to the themes of:

- People are not who they seem
- Pregnancy
- Hearing noises
- Tactile hallucinations
- A feeling of being touched
- Devil, demon or spirit is controlling them
- Seeing images of death or blood

##### 4.5.2.1. *People are not who they seem*

Women were significantly more likely to experience beliefs that people around them are imposters, actors or not who they say they are. This sub-theme is part of a larger theme of 'things are not real' and includes beliefs that family members are not their biological family members, that staff are only acting as staff or that people around them were capable of changing their appearance.

This finding is consistent with existing literature on Capgras Syndrome (which refers to a delusion that a friend or family member has been replaced by an identical impostor) and the Fregoli syndrome (in which an individual believes that different people are in fact a single person who changes appearance or is in disguise). Existing literature suggests that these syndromes, which are based on non-recognition and misidentification of a meaningful person in the individual's environment, are more common in women (Dohn & Crews, 1986; Merrin & Silberfarb, 1976; Vogel, 1974). Though some authors argue that the aetiology of such delusions are organic in nature (de Pauw, 1994; Foerstl, 1990), others have postulated psychodynamic explanations. One explanation is that individuals project the loss of their own stable sense of identity onto others who are then seen as unreal imposters (Sinkman, 1983). Another explanation is that the delusion arises as a means of neutralising intolerable feelings towards others (O'Reilly & Malhotra, 1987). It has been hypothesised that intolerable feelings of anger towards another person is defended against by the ego defense mechanism of denial (Silva, Leong, Weinstock, & Boyer, 1989). This may be particularly pertinent for women, who have been socialised to inhibit the expression of anger (Brody, 1985).

It is noted that the delusion is often accompanied with violence towards others (Silva et al., 1989). It could be hypothesised that the belief serves to protect women against unbearable or socially unacceptable feelings of anger towards others, sometimes providing personal justification for violence towards them, which would otherwise have been socially forbidden for their gender.

The finding that women were significantly more likely to experience beliefs that people around them are imposters, actors or not who they say they are is also consistent with research that demonstrates that women are more likely to experience paranoid, suspicious or persecutory delusions (Atalay & Atalay, 2006; Goldstein & Lewine, 2000; Goldstein et al., 1990; Suhail & Chaudhry, 2006). This gender difference has been linked to social position and socioeconomic status. Mirowsky and Ross (1983) argue that holding a powerless position in society, as well as experiencing threat of victimisation and exploitation, can lead to the development of paranoia. Feelings of powerlessness lead to a belief in external control, i.e. that

others are responsible for important outcomes in one's life, which creates feelings of mistrust and ultimately paranoia.

It is also noted that paranoid or persecutory delusions are associated with a history of childhood adversity or abuse (Longden, Sampson, & Read, 2015). Gender differences in the presentation of paranoid or persecutory delusions may be explained by gender difference in abuse history, as will be discussed in Section 4.6.2.1.

#### 4.5.2.2. *Pregnancy*

Women were significantly more likely to experience beliefs that they are pregnant or have recently had a child or miscarriage. This sub-theme is part of the larger theme of 'body is changed or damaged' and included beliefs that the individual was pregnant or experiencing symptoms of pregnancy e.g. morning sickness. Previous research has demonstrated that this belief is not restricted to women (Bera & Sarkar, 2015), however it was only reported for women in this sample. Delusions related to pregnancy or fertility are documented in the research literature (Allan & Hafner, 1989; Bera & Sarkar, 2015). Although biological factors have been implicated in the development of these beliefs, for example the misinterpretation of prolactin secretion as a side effect of antipsychotic medication (Shankar, 1991), a number of psychosocial factors have also been proposed. It is hypothesised that these beliefs are related to gender norms, including a greater pressure on women to conform with regards to marriage and children (Haarmans, 2015) and the importance placed on motherhood in women's self-definition (Rudden et al., 1983; Griengl, 2000). Alternatively, Shankar (1991) proposed that a belief of pregnancy, which establishes an undisturbed relationship between an individual and a foetus, can be understood as an adaptive mechanism which protects against loneliness. Though not examined in the present study, it has been observed that delusions of pregnancy often follow experiences of relational loss and therefore may act as a means of wish-fulfilment (Shankar, 1991).

#### 4.5.2.3. *Hearing noises*

Women were significantly more likely to experience hallucinations related to the theme of hearing noises. This included hearing inanimate noises (e.g. knocking or buzzing), as well as hearing footsteps, crying, screaming, whispering, mumbling or laughter. Auditory hallucinations of non-verbal sounds are reported by an estimated 17% of people diagnosed with psychosis or 'schizophrenia' (Corstens & Longden, 2013). Though consistent with the well-replicated finding that women are significantly more likely to experience auditory hallucinations (Murphy, Shevlin, Adamson, & Houston, 2010; Shevlin, Murphy, Dorahy, & Adamson, 2007), previous research investigating gender differences in psychotic symptoms has failed to make a distinction between hearing voices and noises. Therefore, this constitutes a novel research finding.

#### 4.5.2.4. *Tactile hallucinations*

Previous analysis of quantitative data in this study demonstrated that women are significantly more likely to experience tactile hallucinations compared to men. This finding was confirmed by the gender analysis of qualitative data. Tactile hallucinations included sub-themes of animals, insects, being touched, vibrations, itching, and burning. Examples included feeling as though insects were crawling inside their body and feeling as though their skin was itching or on fire. This is consistent with a small body of research which suggests that tactile hallucinations are more frequently experienced by women (Gecici et al., 2010; Murphy et al., 2010). Gender differences in tactile hallucinations may be explained by higher rates of childhood sexual abuse documented in women (Read et al., 2003), as will be discussed in Section 4.6.2.1.

#### 4.5.2.5. *A feeling of being touched*

Analysis also demonstrated that women are more likely to experience tactile hallucinations specifically related to the feeling of being touched. Women are significantly more likely to feel that someone or something is touching them. In two cases this was experienced while the individual was in bed. As described above, gender differences in tactile hallucinations may be explained by higher rates of childhood sexual abuse documented in women, as will be discussed in Section 4.6.2.1.

#### 4.5.2.6. *Devil, demon or spirit is controlling them*

The experience of a belief that a devil, demon or spirit was controlling one's thoughts or actions was only experienced by women in this sample. This sub-theme is part of a larger theme of 'possession or control' and included beliefs that the individual was being controlled or possessed by the devil or by evil spirits including demons or Jinns. Gender differences for this theme did not meet statistical significance and therefore it is noted this finding must be interpreted with caution. However, this non-significant trend is consistent with research findings that women are more likely to experience delusions of being controlled (Suhail, 2003).

Cognitive models suggest that delusions of external control occur as a result of dysfunctional monitoring of one's own intentions and actions (Frith, 2005) or from a "disruption to a sense of self" (Hemsley, 1998). However, these models do not account for gender differences in delusions of control. This may be understood by social theories such as the social marginality hypothesis which describes women as socially devalued (Irwin, 2009). Socially-determined gender roles have traditionally placed women in subordinate positions in society where they have reduced opportunity for decision-making. This reduced level of autonomy has been implicated in the development of a range of mental health problems (World Health Organization, 2002) and may provide an explanation for why women more often experience beliefs of being controlled by external forces.

#### 4.5.2.7. *Seeing images of death or blood*

The experience of seeing images associated with death including bodies and blood was experienced only by women in this sample. This sub-theme is part of a larger theme of 'visual hallucinations' and includes instances of individuals seeing dead bodies or blood in the shower. Gender differences for this theme did not meet statistical significance and therefore it is noted this finding must be interpreted with caution. However, this non-significant trend is consistent with existing evidence to suggest that women are more likely to experience visual hallucinations related to death (Gecici et al., 2010). However, as described above, this constitutes a largely unreported research finding which warrants further exploration.



#### **4.6. Research question: Do demographic factors, including a history of abuse and substance use, account for any differences in presentation between men and women?**

This research question was explored by recording the substance use and abuse history for each participant. Statistical analysis explored gender differences in a history of substance use, child abuse (physical, emotional, sexual, domestic violence, bullying) and adult abuse (physical, emotional, sexual).

##### **4.6.1. Gender differences in histories**

Analysis demonstrated the following gender differences:

##### **4.6.1.1. *Substance use***

Men were significantly more likely to have a history of substance use compared to women. This is consistent with existing research which suggests that rates of substance use are higher for men in both the general population (Becker & Hu, 2008) and patient samples (Ochoa et al., 2012). In the present study, 71% of men had a history of substance use compared to 34% of women. This is comparable to other studies of first episode of psychosis populations (Arranz et al., 2015).

##### **4.6.1.2. *Sexual abuse***

Women were significantly more likely to have a history of childhood sexual abuse and adult sexual abuse compared to men. This is consistent with a significant body of evidence which demonstrates that disclosures of childhood sexual abuse and adult sexual abuse are higher for women compared to men (Briere & Elliott, 2003). In the present study, 16% of women experienced childhood sexual abuse compared to 5% of men while 15% of women experienced adult sexual abuse compared to 3% of men. Though the gender discrepancy is consistent with previous research, the rates of sexual abuse and abuse are lower than documented in previous studies. In a review of the literature, Read et al. (2008) reported that, on average, 47% of women and 29% of men diagnosed with psychosis had experienced childhood sexual abuse.

The lower rates of abuse found in this study may be related to the study's reliance on information recorded in electronic medical records. Research literature suggests that

rates of abuse recorded in medical records is a substantial underestimate (Read, Hammersley, Rudegair, 2007; Read, McGregor, Coggan, & Thomas, 2006). A recent systematic review of the literature demonstrated that the majority of cases of child abuse are not identified by mental health services. It highlighted that only 28% of abuse identified by researchers is found in medical records and that less than 22% of service users report being asked about child abuse (Read, Harper, Tucker, & Kennedy, 2017).

It is also noted that the rates of abuse for men in this study sample may have been further underestimated. Literature suggests that men are less likely to disclose experiences of abuse (Alaggia, 2005) and are less likely to be asked about abuse in mental health settings (Read & Fraser, 1998; Read et al., 2017).

#### 4.6.2. Gender differences in relationships between histories and symptoms

Gender analysis of the relationship between life history and symptoms demonstrated that the relationship between several types of life history and specific symptoms only holds for one gender. For example, analysis by gender demonstrated that men (but not women) with a history of childhood sexual abuse are more likely to present with negative symptoms. This may be understood within the context of gender differences in disclosing abuse to professionals. It has been reported that men are less likely to disclose experiences of sexual abuse or to delay disclosing their experiences (Tang, 2007; Alaggia, 2005). This is related to a fear of being seen as homosexual, feelings of stigmatization or isolation because of the belief that the abuse should not have happened to them on the basis of their gender (Alaggia, 2005; Tang, 2007), as well as high levels of shame (Banyard, Williams, & Siegel, 2004; Dhaliwal, Gauzas, Antonowicz, & Ross, 1996). This may provide a partial explanation for why men develop more negative symptoms of psychosis than women, which include withdrawing from others and shutting off their emotional experience.

Gender differences in the relationships between histories and associated symptoms constitutes a novel finding which requires further research. These findings suggest that life adversities affect men and women in different ways. Therefore, it is important that future research includes a gender analysis of associations rather than making assumptions that associations are true for both genders.

#### 4.6.2.1. *Association between childhood sexual abuse and hallucinations*

It is hypothesised that the differences observed in rates of childhood and adult sexual abuse accounts for some of the gender differences observed in psychotic symptoms.

Women were significantly more likely to believe that they were being controlled by a devil or spirit, to hear non-verbal noises and to experience tactile hallucinations compared to men, including the specific experience of feeling as though they were being touched.

These gender differences may be explained by research which demonstrates an association between childhood abuse and hallucinations. In a review of 200 clients attending a community mental health team, Read et al. (2003) found that individuals with a history of childhood sexual abuse were three times as likely to experience hallucinations than those without. It is understood that hallucinations are more commonly experienced by those who have experienced childhood sexual abuse compared to other psychotic symptoms such as delusions (Bentall et al., 2012; Read et al., 2005; Read & Argyle, 1999; Read & Bentall, 2012).

It has also been demonstrated, albeit in only a small number of studies, that the themes of psychotic content are related to histories of abuse. Some studies have demonstrated that the content of hallucinations of child sexual abuse survivors contains representations of traumatic experiences. Studies have demonstrated that the content of hallucinations (across modalities) are often reminiscent of details of traumatic events (Famularo et al., 1992; Ensink, 1992; Read & Argyle, 1999). For example, a voice commanding that a patient kill herself taking the voice of the parent who abused her as a child. The themes of hallucinations experienced by those with a history of childhood sexual abuse, specifically those who had experienced incest, was explored by Ellenson (1985). In a study of 40 female patients, it was observed that survivors of incest frequently experienced illusions and hallucinations. These commonly took the form of sounds of an intruder (e.g. “footsteps”, “breathing”, “doors opening”) and voices that were persecutory or commanding in nature. The voices most commonly spoke critically of the individual in sexual terms, threatened them with harm or directed them to harm themselves. Similarly, Read et al. (2003) found

that sexual symptom content was seven times more likely to be found in those who have experienced childhood sexual and physical abuse. This includes reference to evil or the devil, which was more common in individuals who have experienced childhood sexual abuse. These themes are replicated in the present study, specifically that women are significantly more likely to experience delusions of control by the devil and to hear non-verbal noises, for example of footsteps or knocking on the door.

An association between childhood sexual abuse and tactile hallucinations has also been observed. In a review of 200 service users attending a community mental health team, Read et al. (2003) found that 12% of individuals abused as a child developed tactile hallucinations compared to 0% of those who were not abused. Tien (1991) noted that 79 of 179 tactile hallucinations reviewed occurred while the subject was in bed.

The source-monitoring hypothesis suggests that flashbacks to sensory aspects involved in experiences of abuse can be experienced as hallucinations of different modalities when attributed to external sources (van der Kolk et al., 1995; Read et al., 2005; Read et al., 2008). For example, inner thoughts related to experiences of abuse may be misattributed to an external source and experienced as a voice. It is hypothesised that external attributions can act as a defence against reliving the painful memories of abuse (Read et al., 2008). The sensation of being touched bears obvious resemblance to experiences of sexual abuse and may represent autobiographical content in psychotic symptoms. Gender differences in this symptom theme may therefore be accounted for by increased rates of sexual abuse in women.

The association between childhood sexual abuse and increased rates of hallucinations can be explained using the traumagenic neurodevelopmental model, which hypothesises that childhood trauma causes long-term neurodevelopmental changes which heightens individuals' sensitivity to stress and their vulnerability to cognitive disturbance (Read et al., 2001).

#### 4.6.2.2. *Association between substance use and positive symptoms*

It is also hypothesised that differences in rates of substance use account for some of the gender differences observed in psychotic symptoms.

The consistent finding that men with psychosis are more likely to use substances than women with psychosis (Ochoa et al., 2012; Kavanagh, 2004) was replicated by this study. It has been reported that substance use is associated with increased rates of psychotic symptoms (Fergusson, Horwood, & Swain-Campbell, 2003). This may provide a partial explanation for the higher numbers of psychotic symptoms seen in men compared to women in this study.

Studies have also demonstrated that substance use, particularly cannabis use, is associated with increased rates of positive symptoms (Caspari, 1999; Degenhardt et al., 2007; Grech et al., 2005). In their review of 725 patients diagnosed with 'schizophrenia', Talamo et al. (2006) found that patients with a secondary diagnosis of substance use disorder, and therefore a historic or current difficulty with substance use, have significantly higher scores of positive symptoms.

Furthermore, several studies have demonstrated that substance use is implicated in the development of specific psychotic symptoms. Individuals with a history of substance use are more likely to present with thought disturbance and hostility (Caspari, 1999). Additionally, studies have demonstrated that substance use is associated with auditory hallucinations (Srisurapanont et al., 2003), persecutory or paranoid delusions (Srisurapanont, 2003; Stefanis, 2004) and grandiose delusions (Stefanis et al., 2004). This may provide a partial explanation for the consistent finding that men are more likely to present with grandiose delusions, which was replicated by this study. This may also explain why the analysis of this study demonstrated that men are significantly more likely to experience specific symptoms of thought disorder, including hostility. The different presentation of psychosis associated with substance use may also provide an explanation for why this study failed to replicate findings that women are more likely to present with hallucinations and persecutory or paranoid delusions. High rates of substance use in the male sample in this study may have influenced gender differences in hallucinations and delusions.

It is important to note the complex relationship between substance use and psychosis. It has been suggested that there is a bi-directional causal relationship between substance use and psychosis (Ferdinand et al., 2005). Studies which explore the reasons for individuals' substance use reveal that many begin using substances as a means of coping with feelings of depression (Addington & Addington, 2007) or to relieve positive symptoms (Spencer, Castle, & Michie, 2002). It is therefore possible that rates of substance use are higher in men as they attempt to cope with a different presentation of psychosis than women. Further research is required to explore whether the relationship between substance use and specific symptoms is causal.

#### **4.7. Strengths and limitations of the study**

##### **4.7.1. Gender analysis of content**

The existing research base has included a very limited analysis of gender differences in the content of psychotic symptoms. This study adds to existing literature by going beyond surface-level description of gender differences in psychotic symptom type by using qualitative methods to explore gender differences in the themes of psychotic symptoms. Existing research literature that has explored gender differences in psychotic symptom content has been restricted to analysis of broad categories of psychotic symptoms such as grandiose delusions, auditory hallucinations without exploration of the content or meaning of the experiences (Rudden et al., 1983; de Portugal et al., 2010) or has restricted their analysis to one type of psychotic symptoms i.e. only exploring the themes of delusions or hallucinations but not both (de Portugal et al., 2010; Suhail, 2003; Riecher-Rossler et al., 2016; Allan & Hafner, 1989). The present study is one of few studies to have conducted a comprehensive gender analysis of all themes that were revealed in participants' reports of all psychotic symptoms.

#### 4.7.2. Sample size

The present study was strengthened by the use of a moderately large sample (n=160) to explore gender differences in psychotic symptom form and content. Existing studies exploring gender differences in themes across all psychotic symptoms have been limited by small sample sizes, ranging from 24 to 88 participants (Allan & Hafner, 1989; Rudden et al., 1983; de Portugal et al., 2010; Walston et al., 1998). However, despite a moderately large sample size, the conclusions that can be drawn from this study are limited in instances where particular themes were experienced by a small number of participants (see Section 4.5.7.2 for a discussion of statistical power).

#### 4.7.3. Mixed methodology

The use of a mixed methodology in this study addressed some of the shortcomings of existing quantitative and qualitative studies and allowed a richer exploration of gender differences in the experience of psychosis than if a single approach had been employed. Qualitative research has been critiqued for its reliance on small sample sizes and the inherent research bias which can influence analysis and results (Willig, 2013). However, the strength of qualitative analysis over quantitative analysis is that it provides an opportunity to explore individuals' experiences in greater depth (Braun & Clark, 2006). It also provides freedom to conduct exploratory analysis without predetermined hypotheses (Willig & Stainton-Rogers, 2017). Given the inconsistencies of previous research findings regarding symptom profiles, it was important to review these in the present study's sample and analyse statistically, making use of widely recognised diagnostic terms. However, what distinguishes this study from existing literature is its use of thematic analysis to introduce the individual experiences of people with psychosis into research. The thematic analysis also allowed exploration without restraint by diagnostic terms. Although the large amount of data collected limited the depth to which the data could be analysed, it presented a pragmatic way of placing emphasis on the importance of individuals' experiences.

#### 4.7.4. Indirect source of information

##### 4.7.4.1. *Recording of symptoms*

The present study was limited by its reliance on electronic medical records for data collection. Recording the symptom type and content on the basis of what has been recorded in participants' electronic medical records meant that the data collected was subject to biases that may have occurred at two stages. Firstly, at the point of mental health staff observing symptoms, for example if participants chose not to disclose their experiences to staff. There were instances where it was noted that a participant was displaying "bizarre behaviour". Working on the assumption that psychotic symptoms, and therefore behaviours, are meaningful, the participant is likely to be experiencing a logical or understandable symptom. This was either not communicated or not understood by the reporting mental health staff. Secondly, there may have been failures of recording symptoms, where time-pressured mental health staff may not have recorded all symptom content disclosed to them. Furthermore, mental health professionals who subscribe to a medical model of mental illness may not see the relevance of recording symptom content. As such, it must be assumed that not all relevant symptom content was recorded, and therefore available for analysis, for all participants in the present study.

##### 4.7.4.2. *Recording of abuse histories*

Insufficient recording may be particularly pertinent to the issue of disclosures of abuse in the sample. Research literature has demonstrated that mental health professionals frequently fail to ask patients about abuse histories and therefore this study, as with any research methodology which relies on retrospective medical records, will include an underestimation of rates of abuse.

Furthermore, biases in the interpretation and recording of disclosures of abuse are also inherent in this study. Abuse histories were often recorded in the medical records in vague or indirect terms, making it difficult to categorise the type of abuse experienced. Where abuse history was unclear, it was omitted from the present study, further minimising rates of abuse. Additionally, there were instances of participants' reports of abuse being labelled as a delusional belief. Research evidence suggests that, contrary to the belief of many mental health professionals, there is no reason to disbelieve the disclosures of abuse made by service users



(Fisher et al., 2011). However, if the historical accuracy of an abuse disclosure was unclear or disputed, it was omitted from the data collection process. This is likely to have, again, contributed to a conservative estimate of abuse histories in this sample.

To increase reliability in the data collection process, inter-rater testing was employed for the coding of ambiguous abuse histories, whereby abuse had to be rated as at least 95% probable that abuse occurred by both raters. It is acknowledged that this is a crude method but is one which allowed increased reliability and confidence in the data collection process, and one which has been used in previous studies exploring abuse histories (e.g. Longden et al., 2015). Though rates of abuse in this study are comparable to those documented in other studies, it is understood that the methodology employed would have resulted in some cases of abuse remaining unidentified and unanalysed.

#### 4.7.5 The problem of false positives

##### 4.7.5.1. *Multiple comparisons problem*

The present study was limited by its lack of post-hoc testing. Given the large number of tests performed, the risk of finding a significant result due to chance alone was increased i.e. there was an increased risk of making a Type I error (Dancy & Reidy, 2011). In order to address the multiple comparisons problem, the significance level was set to .025 rather than .05. However, it is acknowledged that this is a liberal approach and that, therefore, some statistically significant results may have arisen from chance alone.

A more robust method of addressing the multiple comparisons problem would have been to perform a Bonferroni correction. The Bonferroni correction sets the significance cut-off at  $\alpha/n$ . For example, with 20 tests and  $\alpha = 0.05$ , you would only reject a null hypothesis if the p-value is less than 0.0025. If examining the results of the present study using a Bonferroni correction, only the following gender differences would remain significant:

- Men experience a greater total number of symptoms than women ( $U(159) = 2380.5, p = .005$ ).

- Men experience a greater number of negative symptoms than women ( $U(159) = -2344.0, p = .001$ ).
- Men are more likely to experience grandiose delusions ( $\chi^2(1) = 15.56, p < .001$ ).
- Men are more likely to experience thought disorder ( $\chi^2(1) = 10.16, p = .001$ ), specifically hostility ( $\chi^2(1) = 15.75, p < .001$ ).
- Men are more likely to experience social withdrawal ( $\chi^2(1) = 13.79, p < .001$ ).

If examining the results of the present study using a Bonferroni correction, only the following gender differences in history would remain significant:

- Men are more likely to experience substance use ( $\chi^2(1) = 22.56, p < .001$ )
- Women are more likely to experience adult sexual abuse ( $\chi^2(1) = 7.83, p = .005$ )

No gender differences in thematic content would remain statistically significant according to a Bonferroni-adjusted significance level. It is therefore acknowledged that the present study constitutes an exploratory examination of the gender differences in psychotic symptom content and theme. Due to the risk of false positives, results should be interpreted tentatively.

#### 4.7.5.2. *Statistical power*

A power analysis for chi squared testing was conducted using G\*Power for Windows V3.1.9.2 (Faul, Erdfelder, Buchner, & Lang, 2009). G\*Power revealed that 1,300 participants would provide 95% power to discover that relationships, if they exist, are statistically significant. The final sample included in the present study did not meet the requirements for the generation of sufficient statistical power to detect a small effect size. Though the sample included in the present study was notably larger than existing studies exploring gender differences in psychotic symptom content, its limited statistical power further limits the extent to which conclusions can be drawn from analyses. A reliance on inadequately sample sizes is a common limitation in psychological research (Marszalek et al., 2011) and therefore further exploration of gender differences is required which makes use of larger sample sizes.

#### 4.7.5.3. *Clinical significance*

Given the small differences between means and modest effect sizes reported in the present study, as well as the increased risk of false positives due to multiple testing, the clinical significance of the findings should be interpreted with caution.

Clinical significance refers to the practical or applied value of research findings i.e. whether effects are genuine and noticeable in service users' everyday lives (Kazdin, 1999). A reliance on statistical significance in research has been identified as problematic because research findings may be significant without necessarily being important (Thompson, 2006). Effect sizes have been proposed as a valuable method of establishing the importance of research findings. Effect size refers to the magnitude of a research outcome (Dancy & Reidy, 2011), and in the present study quantify the strength of the difference between genders. It is noted that the effect sizes observed in the present study range from small to medium. Therefore, though gender differences have been observed in a range of symptom categories and themes in the present sample, it is possible that these differences do not represent a meaningful difference in lived experience and therefore may not be observed in service users attending mental health services.

#### 4.7.6. Difficulty categorising

A further limitation of the study was the unreliability of categorising psychotic symptoms. It was noted during data collection that it was difficult to distinguish between a number of symptoms. For example, distinguishing between negative symptoms of psychosis and depression, or between persecutory delusions and social anxiety. In other examples, cognitive impairments or deficits were implied or suggested (e.g. stating that the individual had become forgetful). However, there were very few cases where cognitive assessments had been administered. Categorisation was made on the basis of terminology used in the electronic medical records. Where symptoms were unclear, they were omitted from the present study, which will have resulted in some symptoms remaining unidentified and unanalysed.

Specific difficulty arose when attempting to categorise delusions as 'bizarre'. Several research studies have demonstrated low rates of inter-rater reliability in the diagnosis of delusions (Bell et al., 2006; Mojtabai & Nicholson, 1995). Research studies have

demonstrated that a 'bizarre' delusion is a particularly problematic and unreliable construct, which cannot be reliably diagnosed by structured interview or standardised instruments (Bell, 2006). On this basis, combined with the lack of any clear, reliable definition of what constitutes a 'bizarre' delusion, it was removed from the data collection sheet and not included in the analysis.

#### 4.7.7. Gender dichotomy

This study was also limited by its reliance on simplistic, dichotomous categories of gender. Gender refers to a socially constructed concept, informed by social and cultural roles and expectations associated with members of different sexes (Newman, 2002). This study hypothesises that the manifestation of gender differences in psychotic symptoms is a result of the different ways that social and cultural factors influence men and women. However, gender was operationalised in the study by using the gender recorded in participants' electronic medical records, restricted to a binary male or female categorisation. This does not account for the continuum of gender and its influence on the experience of psychosis.

#### 4.7.8. Other explanatory factors

The present study limited the number of factors which might contribute to gender differences in psychotic symptom to substance use, childhood abuse and adult abuse. There is emerging evidence to suggest that a range of other traumatic life experiences may contribute to the development of psychosis. For example, it has been suggested that rates of 'non-intentional life-threatening events' (e.g. natural disasters or car accidents) are raised in first episode psychosis populations (Gibson, Alloy, & Ellman, 2016; Neria, Bromet, Sievers, Lavelle, & Fochtmann, 2002). Additionally, a large population-based study has demonstrated an association between serious illness or injury and the development of psychotic disorders (Bebbington et al., 2004; Gibson et al., 2016). It was noted during data collection for the present study that several participants experienced traumatic events including traumatic loss of loved ones that appeared to be implicated in the development of their distress. Furthermore, a strong research base has demonstrated associations between ethnicity, socio-economic status and social functioning with the development of psychosis. However, it was beyond the scope of this study to explore these factors further.

## 4.8. Implications for research

### 4.8.1. Gender analysis

The present study contributes to a small evidence base which has explored the content of psychotic symptoms with a gender perspective. Further research is required to gain a greater understanding of the ways in which men and women's experience of psychosis differs, and the contributing factors to these differences. Future research may benefit from further qualitative methodologies including in-depth interviews with individuals with psychosis to gain direct information about the meaning of psychotic experiences and how this differs for men and women. Future research may also benefit from a more in-depth exploration of gender. This could include using measures which quantify masculinity and femininity, for example the Gender Norm Attitude Scale (Waszak, Severy, Kafafi, & Badawi, 2001), to explore how this influences the relationship with psychotic experience.

#### 4.8.1.1. *Beyond gender differences*

It is noted that future research on gender should not be limited to exploration of gender differences. Even if there are no differences in the types of symptoms presented by different genders, issues of gender may play a significant role in the meaning of experiences to service users and clinicians.

Psychological and social theories of gender might be of help in understanding the influence of gender on the experience of mental health problems including psychosis. Gender socialisation refers to the learning of behaviour and attitudes considered appropriate for a given gender (Henslin, 1999). The set of behaviours deemed appropriate is determined by societal, cultural and economic context and therefore vary across time and culture. Gendered cultural ideals are instilled into our behaviours from infancy, with gendered toy preference appearing from the age of two and strengthening by the age of five as children experience increasing socialising influences of parents, peers and the media (Edwards, Knoche & Kumru, 2001).

Notions of hegemonic masculinity in modern society are associated with a set of stereotyped qualities of masculinity. These include a denial of emotions other than

anger, an unwillingness to accept weakness or dependency and a devaluation of all feminine attributes including homophobia (Kupers, 2005). This is manifested in men's relationship to help and engagement with mental health services. Men are less likely than women to seek help when experiencing mental health problems and are more likely to then disengage with services (O'Brien, Fahmy, & Singh, 2009). Similarly, dominant gender stereotypes suggest that women should display characteristics that allow a hierarchical relationship with hegemonic masculinity i.e. characteristics that place them in a subordinate position to men (Schippers, 2007; Connell, 1995). This includes sensitivity, empathy, passivity and beauty (Girshick, 2008). Gender stereotypes traditionally position women as homemakers across cultures, while men are positioned as breadwinners.

The ways in which gendered experiences influence the development and meaning of individuals' psychotic symptoms is an avenue for future exploration. Future research studies may benefit from in-depth exploration of the influence gender issues on the development and meaning of individuals' experience of psychosis.

It may also be important to consider the ways in which other aspects of identity, such as race and culture, interact with men and women's experience of psychosis. Intersectionality refers to the interconnection of social categories, such as class, race, sexual orientation, disability. It has been argued that an intersectional approach should be taken in psychological research in order to enrich our understanding of psychological constructs and processes (Else-Quest & Hyde, 2016).

#### 4.8.2. Complaint-orientated approach

The findings of the present study suggest that there is significant variability in the experience of psychosis. The number of themes and sub-themes that emerged from the thematic analysis suggests that psychosis has a complex and varied presentation. This supports the argument that psychotic experiences do not neatly fit within diagnostic categories and provides evidence that future research would benefit from a 'complaint-orientated' approach over a 'diagnosis-based' approach (Bentall, 2005). Nuances in the experience of psychosis are likely to be missed when conceptualising psychosis as a distinct disease construct. This may explain some of the inconsistencies in previous literature examining gender differences in psychosis,

which do not sufficiently account for the range of experiences that contribute to a diagnosis of psychosis and the gender differences between them.

## **4.9. Implications for practice**

### **4.9.1. Different treatment needs for men and women**

The present study also suggests that different treatment approaches may be required for men and women. Clinicians should consider powerful gender-based societal expectations and their impact on individuals' life experiences, their resources for coping and their psychological presentations.

It is well documented in the research literature that men are more likely to disengage from services (Kreyenbuhl et al., 2009; Nosé et al., 2003) compared to women who are more likely to comply with medication and have greater symptom improvement (Theuma et al., 2007). Gender-informed approaches should consider the social and psychological factors which lead to men's disengagement and services may benefit from interventions which aim to target presentations more frequently seen in men. For example, it may be beneficial to place greater emphasis on supporting men with first episode psychosis who rely on substances to reduce their substance use and find more adaptive ways of coping with their symptoms. It has also been suggested that it is beneficial to involve men in their treatment, and to seek their views on what they find helpful and unhelpful at an early stage to promote therapeutic alliance and engagement (Theuma et al., 2007). Gender-informed approaches have also been shown to be effective at improving men's engagement with therapeutic interventions. For example, Spandler, McKeown, Roy and Hurley (2013) demonstrated positive outcomes for a group-based intervention for men with mental health problems which made use of a football metaphor and football venues as a method of promoting engagement with a group traditionally perceived as 'hard to reach'. Participants in this study reported a more positive experience and less stigmatising experience compared with previous contact with mental health services (Spandler, Roy & McKeown, 2014). This was attributed, in part, to previous difficulties engaging with the forms of "emotion-talk" expected of them in traditional interventions in mental health services (Spandler, Roy & McKeown, 2014, p144). This is consistent with notions of hegemonic masculinity which dictate a denial of emotions and an

unwillingness to accept weakness or dependency (Kupers, 2005) and may therefore oppose expectations inherent in current mental health interventions such as psychological therapy.

Similarly, issues of gender may usefully be explored in interventions aimed for women. There is a large evidence base for feminist approaches and feminist group therapy across a range of clinical and non-clinical groups including with survivors of abuse (Tutty et al., 1993) and eating disorders (Black, 2003). A small-scale study exploring the benefits of feminist-informed approach with adolescent girls with a first episode of psychosis demonstrated positive outcomes. Attendance at a group which focussed on issues of gender and made use of a non-hierarchical structure to support the development of empowering narratives of women led to increased trust in others as well as more positive attitudes about being a woman (Newman, Jones & Scrivener, 2018). Attending to issues of disempowerment and disadvantage experienced by women is a key feature of feminist-informed therapy and may be a helpful way of exploring the meaning of the development and experience of psychotic symptoms for women. A feminist approach to therapy may be particularly beneficial for female survivors of abuse due to its non-victim blaming approach.

Good, Gilbert and Scher (1990) propose a Gender Aware Therapy whereby feminist therapy and knowledge of gender is integrated into psychological therapies for both men and women. Therapists are encouraged to explore unique gender-related experiences with men and women to facilitate understanding and meaning-making. The findings of the present study support such therapy which considers the societal and cultural context of individuals' mental distress including contemporary conceptions of gender.

#### 4.9.2. Content is meaningful

The findings of the present study have important implications for mental health clinicians. The findings provide evidence that the content of psychotic symptoms is meaningful and can be understood in relation to life experience as well as societal roles and expectations. This is consistent with studies which have concluded that the content of psychotic experiences is personally meaningful (Beavan, Read, & Cartwright, 2011; Geekie & Read, 2009; Mitropoulos et al., 2015). However, current



clinical practice places a limited emphasis on the meaning of individuals' psychotic symptoms. The data collection process for this study highlighted that there were instances where the content of psychotic symptoms was not recorded at all. Though this is understandable if adhering to a medical model of distress, whereby psychotic symptoms are thought to be caused by biological factors and genetic vulnerability, this demonstrates a lack of understanding and implementation of a biopsychosocial model in current clinical practice.

The findings of this study suggest that it is important that the content of psychotic symptoms, and their meaning to the individual, are a focus for treatment. This may take the form of CBT which includes exploration of the social and psychological factors that contribute to the development of psychotic symptoms (Close & Garety, 1998; Freeman et al., 1998). Individuals with psychosis are also likely to benefit from interventions drawing on the principles of the Hearing Voices Movement, which highlights the relevance of life experiences in the development of psychosis and conceptualises hearing voices as a significant, meaningful and interpretable response to life events (Corstens et al., 2014). Alternative approaches such as Open Dialogue (Seikkula et al., 2006) may also be of benefit to individuals with psychosis. Based on an assumption that psychotic experiences are meaningful, Open Dialogue helps individuals and the people in their network to develop a shared understanding with an emphasis on the client's own words and stories, rather than on symptoms.

#### 4.9.3. Adverse life experiences

This study adds to a significant body of evidence which demonstrates the association between adverse life events and the development of psychosis. High rates of abuse documented in this and other studies suggest that it would be beneficial to include routine abuse inquiry in all mental health settings (Agar & Read, 2002; Read et al., 2017). Appropriate interventions should then be offered which aim to support individuals in making sense of their experiences and how this relates to their psychosis (Agar & Read, 2002).

Furthermore, the consistent association between adverse life events and the development of psychosis adds weight to the argument that primary prevention is required to reduce the risk of people developing psychosis. Interventions which aim

to reduce child poverty, abuse and neglect will have positive outcomes in terms of social functioning, physical health and mental health (Read, 2010). Specific prevention programmes which target sexual abuse and abuse, which are particularly damaging to individuals' mental health, may be of specific benefit.

#### **4.10. Reflective review**

I was pleased to have the opportunity to research this topic as it reflects my clinical interests in psychosis. My history of working with young people with psychosis in EIPS, combined with the teaching I have received whilst on training, has furthered my professional interest in the role of adverse life experiences on the development of psychosis. I am aware that this interest may have introduced bias into the study if I over-attended to records of abuse, especially where abuse history was ambiguous or unclear. I acted to counterbalance this risk of bias by introducing an inter-rater check for abuse history to ensure that rates of abuse used in the analysis were as reliable as possible. I am also aware that, as a woman, it is understandable that I frequently felt more aligned to female participants during the process of data collection. Reading vast amounts of medical records was an emotionally tolling task due to the range of adversities faced by all participants. I noticed that there were more aspects of female participants' stories that I was able to identify with. To ensure that this would not bias the study's findings, I adhered strictly to the study's protocol of systematically reading all electronic records available for every participant and recording on the pre-agreed data collection sheet.

#### **4.11. Conclusions**

This study aimed to explore gender differences in the frequency and content of psychotic symptoms. To the author's knowledge, it is the first study to date which has attempted to comprehensively map the content of psychotic symptoms in a moderately large sample.

The analyses revealed that men and women present with different symptoms of psychosis to differing degrees. Men were significantly more likely to experience negative symptoms and thought disorder, while women were more likely to experience hallucinations. Furthermore, qualitative analysis demonstrated that some of the thematic content of psychotic symptoms are different for men and women. This may be partly understood from gendered social and psychological perspectives. Men are more likely to experience delusional beliefs which focus on themes of being attacked and possessing extraordinary powers. Contrastingly, women are more likely to experience delusional beliefs which focus on the themes of people not being who they seem as well as hearing noises and experiencing tactile hallucinations of being touched.

Gender differences in the histories and life experiences of men and women with psychosis, namely differential rates of substance use and sexual abuse, may partially explain the gender differences in psychotic symptoms and psychotic symptom content.

Based on the findings of this study, it is hoped that future studies and mental health services will attend to the meaning and content of psychotic experiences and will include gender in their consideration of symptoms.

## 5. REFERENCES

- Abba, N., Chadwick, P., & Stevenson, C. (2008). Responding mindfully to distressing psychosis: A grounded theory analysis. *Psychotherapy Research*, 18(1), 77–87.
- Abel, K. M., Drake, R., & Goldstein, J. (2010). Sex differences in schizophrenia. *The International Journal of Social Psychiatry*, 22(5), 417–428.
- Addington, J., & Addington, D. (2007). Patterns, predictors and impact of substance use in early psychosis: a longitudinal study. *Acta Psychiatrica Scandinavica*, 115(4), 304–309.
- Agar, K., & Read, J. (2002). What happens when people disclose sexual or physical abuse to staff at a community mental health centre? *International Journal of Mental Health Nursing*, 22(2), 70–79.
- Alaggia, R. (2005). Disclosing the trauma of child sexual abuse: A gender analysis. *Journal of Loss and Trauma*, 10(5), 453–470.
- Albus, M., Hubmann, W., Mohr, F., Scherer, J., Sobizack, N., Franz, U., Hecht, S., Borrmann, M. & Wahlheim, C. (1997). Are there gender differences in neuropsychological performance in patients with first-episode schizophrenia? *Schizophrenia Research*, 28(1), 39–50.
- Aleman, A., Kahn, R. S., & Selten, J.P. (2003). Sex differences in the risk of schizophrenia. *Archives of General Psychiatry*, 60, 565–71.
- Allan, J., & Hafner, H. (1989). Sex differences in the phenomenology of Schizophrenic Disorder. *Canadian Journal of Psychiatry*, 34(1), 46–48.
- Allegri, F., Belvederi Murri, M., Paparelli, A., Marcacci, T., Braca, M., Menchetti, M., ... Tarricone, I. (2013). Current cannabis use and age of psychosis onset: A gender-mediated relationship? Results from an 8-year FEP incidence study in Bologna. *Psychiatry Research*, 210(1), 368–370.
- American Psychiatric Association. (2013). *DSM-5: Diagnostic and statistical manual of mental disorders*. Arlington, VA: American Psychiatric Publications.

- Amin, Y., & Hamdi, E. (1995). Amin, Y., & Hamdi, E. (1995). Gender differences in psychiatric admissions: The influence of culture and social structure. *Arab Journal of Psychiatry*, 6(1), 66–81.
- Andia, A. M., Zisook, S., Heaton, R. K., Hesselink, J., Jernigan, T., Kuck, J., Morganville, J. & Braff, D. L. (1995). Gender differences in schizophrenia. *The Journal of Nervous and Mental Disease*, 183(8), 522–8.
- Andreasen, N. C., & Olsen, S. (1982). Negative v positive schizophrenia. Definition and validation. *Archives of General Psychiatry*, 39(7), 789–94.
- Andréasson, S., Engström, A., Allebeck, P., & Rydberg, U. (1987). Cannabis and schizophrenia: A longitudinal study of Swedish conscripts. *The Lancet*, 330(8574), 1483–1486.
- Angermeyer, M., Goldstein, J., & Kuehn, L. (1989). Gender differences in schizophrenia: rehospitalization and community survival. *Psychological Medicine*, 19(2), 365.
- Archer, J., & Coyne, S. M. (2005). An integrated review of indirect, relational, and social aggression. *Personality and Social Psychology Review*, 9(3), 212–230.
- Arranz, B., Safont, G., Corripio, I., Ramirez, N., Dueñas, R. M., Perez, V., Alvarez, E. & San, L. (2015). Substance use in patients with first-episode psychosis: Is gender relevant? *Journal of Dual Diagnosis*, 11(3–4), 153–160.
- Arseneault, L., Cannon, M., Fisher, H. L., Polanczyk, G., Moffitt, T. E., & Caspi, A. (2011). Childhood trauma and children's emerging psychotic symptoms: A genetically sensitive longitudinal cohort study. *American Journal of Psychiatry*, 168(1), 65–72.
- Atalay, F., & Atalay, H. (2006). Gender differences in patients with schizophrenia in terms of sociodemographic and clinical characteristics. *German Journal of Psychiatry*, 9(2), 41–47.
- Ayesa-Arriola, R., Rodriguez-Sanchez, J. M., Gomez-Ruiz, E., Roiz-Santiañez, R., Reeves, L. L., & Crespo-Facorro, B. (2014). No sex differences in neuropsychological performance in first episode psychosis patients. *Progress in Neuro-Psychopharmacology & Biological Psychiatry*, 48, 149–154.

- Bach, P., & Hayes, S. C. (2002). The use of acceptance and commitment therapy to prevent the rehospitalization of psychotic patients: a randomized controlled trial. *Journal of Consulting and Clinical Psychology, 70*(5), 1129–39.
- Baird, J., Bell, S., Brabban, A., Burbach, F., Campbell, A., Dodgson, G., Eranti, S., Fox, T., Fraser, R., French, P., Hember, M., Jeavons, J., Laughton-Brown, H., Leeks, A., Kumar, D., McGowen, S., Pearson D., Shiers, D., Smith J., Williams, M.S. & Zoetti, M. (2012). *IRIS Guidelines Update: Early Intervention in Psychosis*. England: Mental Health Network NHS Confederation. Retrieved on 30th April 2018 from <http://www.iris-initiative.org.uk/silo/files/iris-guidelines-update--september-2012.pdf>
- Baldwin, C. H., & Srivastava, L. K. (2015). Can the neurodevelopmental theory account for sex differences in schizophrenia across the life span? *Journal of Psychiatry & Neuroscience, 40*(2), 75–7.
- Bannister, D. (1968). The logical requirements of research into schizophrenia. *The British Journal of Psychiatry: The Journal of Mental Science, 114*(507), 181–8.
- Banyard, V. L., Williams, L. M., & Siegel, J. A. (2004). Childhood sexual abuse: A gender perspective on context and consequences. *Child Maltreatment, 9*(3), 223–238.
- Barkus, E., Stirling, J., Hopkins, R., McKie, S., & Lewis, S. (2007). Cognitive and neural processes in non-clinical auditory hallucinations. *The British Journal of Psychiatry, 51*, 76-81.
- Barnett, J. H., Werners, U., Secher, S. M., Hill, K. E., Brazil, R., Masson, K., ... Jones, P. B. (2007). Substance use in a population-based clinic sample of people with first-episode psychosis. *British Journal of Psychiatry, 190*, 515–520.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.
- Bartels, S. J., Drake, R. E., Wallach, M. A., & Freeman, D. H. (1991). Characteristic hostility in schizophrenic outpatients. *Schizophrenia Bulletin, 17*(1), 163–71.

- Beavan, V., Read, J., & Cartwright, C. (2011). The prevalence of voice-hearers in the general population: A literature review. *Journal of Mental Health*, 20(3), 281–292.
- Bebbington, P. E., Bhugra, D., Brugha, T., Singleton, N., Farrell, M., Jenkins, R., Lewis, G. & Meltzer, H. (2004). Psychosis, victimisation and childhood disadvantage: evidence from the second British National Survey of Psychiatric Morbidity. *The British Journal of Psychiatry: The Journal of Mental Science*, 185(3), 220–6.
- Becker, J. B., & Hu, M. (2008). Sex differences in drug abuse. *Frontiers in Neuroendocrinology*, 29(1), 36–47.
- Bell, V., Halligan, P. W., & Ellis, H. D. (2006). Diagnosing delusions: A review of inter-rater reliability. *Schizophrenia Research*, 86(1–3), 76–79.
- Bentall, R. P. (1990). The illusion of reality: a review and integration of psychological research on hallucinations. *Psychological Bulletin*, 107(1), 82–95.
- Bentall, R. P. (2005). Madness explained: Why we must reject the Kraepelinian paradigm and replace it with a “complaint-orientated” approach to understanding mental illness. *Medical Hypotheses*, 66(2), 220–233.
- Bentall, R. P. (2009). *Doctoring the mind: Why psychiatric treatments fail*. London: Penguin Books.
- Bentall, R. P., Corcoran, R., Howard, R., Blackwood, N., & Kinderman, P. (2001). Persecutory delusions: A review and theoretical integration. *Clinical Psychology Review*, 21(8), 1143–1192.
- Bentall, R. P., De Sousa, P., Varese, F., Wickham, S., Sitko, K., Haarmans, M., & Read, J. (2014). From adversity to psychosis: Pathways and mechanisms from specific adversities to specific symptoms. *Social Psychiatry and Psychiatric Epidemiology*, 49(7), 1011–1022.
- Bentall, R. P., Wickham, S., Shevlin, M., & Varese, F. (2012). Do specific early-life adversities lead to specific symptoms of psychosis? A study from the 2007 the adult psychiatric morbidity survey. *Schizophrenia Bulletin*, 38(4), 734–740.

- Bera, S., & Sarkar, S. (2015). Delusion of pregnancy: A systematic review of 84 cases in the literature. *Indian Journal of Psychological Medicine*, 37(2), 131. h
- Bergin, M., Wells, J. S. G., & Owen, S. (2008). Critical realism: a philosophical framework for the study of gender and mental health. *Nursing Philosophy*, 9(3), 169–179.
- Birchwood, M., Todd, P., & Jackson, C. (1998). Early intervention in psychosis: the critical-period hypothesis. *British Journal of Psychiatry*, 172(33), 53–59.
- Bird, V., Premkumar, P., Kendall, T., Whittington, C., Mitchell, J., & Kuipers, E. (2010). Early intervention services, cognitive-behavioural therapy and family intervention in early psychosis: systematic review. *The British Journal of Psychiatry: The Journal of Mental Science*, 197(5), 350–6.
- Bora, E., & Murray, R. M. (2014). Meta-analysis of cognitive deficits in ultra-high risk to psychosis and first-episode psychosis: Do the cognitive deficits progress over, or after, the onset of psychosis? *Schizophrenia Bulletin*, 40(4), 744–755.
- Boyle, M. (1997). Clinical Psychology: Theory. *Feminism & Psychology*, 7(2), 231–238.
- Braun, V., & Clark, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Brewin, J., Glazebrook, C., & Cantwell, R. (1998). Gender differences in the psychopathology of first episode schizophrenia. *Schizophrenia Research*, 29(1–2), 185.
- Briere, J., & Elliott, D. M. (2003). Prevalence and psychological sequelae of self-reported childhood physical and sexual abuse in a general population sample of men and women. *Child Abuse and Neglect*, 27(10), 1205–1222.
- Brody, L. R. (1985). Gender differences in emotional development: A review of theories and research. *Journal of Personality*, 53(2), 102–149.
- Brody, L. R., & Hall, J. A. (1993). Gender and emotion. In M. Lewis & J. M. Haviland (Eds.), *Handbook of emotions* (pp. 447–460). New York: Guilford Press.



- Buckley, P., Miller, B., Lehrer, D., & Castle, D. (2009). Psychiatric comorbidities and schizophrenia. *Schizophrenia Bulletin*, 35(2), 383–402.
- Calahorro, C. M., Jiménez, M. G., & Serrano, B. G. (2017). A gender approach in prodromes of psychosis. *European Psychiatry*, 41 (Supplement), S804.
- Cannon, B. J., & Kramer, L. M. (2012). Delusion content across the 20th century in an American psychiatric hospital. *International Journal of Social Psychiatry*, 58(3), 323–327.
- Cantor-Graae, E., & Selten, J.-P. (2005). Schizophrenia and migration: A meta-analysis and review. *American Journal of Psychiatry*, 162(1), 12–24.
- Cascardi, M., Mueser, K. T., DeGiralomo, J., & Murrin, M. (1996). Physical aggression against psychiatric inpatients by family members and partners. *Psychiatric Services*, 47(5), 531–533.
- Cascio, M. T., Cella, M., Preti, A., Meneghelli, A., & Cocchi, A. (2012). Gender and duration of untreated psychosis: A systematic review and meta-analysis. *Early Intervention in Psychiatry*, 6(2), 115–127.
- Caspari, D. (1999). Cannabis and schizophrenia: results of a follow-up study. *European Archives of Psychiatry and Clinical Neuroscience*, 249(1), 45–49.
- Castle, D., Abel, K., Takei, N., & Murray, R. (1995). Gender differences in schizophrenia: Hormonal effect or subtypes? *Schizophrenia Bulletin*, 21(1), 1–12.
- Castle, D., & Murray, R. (1993). The epidemiology of late-onset schizophrenia. *Schizophrenia Bulletin*, 19(4), 691–700.
- Caton, C. L. M., Xie, H., Drake, R. E., & McHugo, G. (2014). Gender differences in psychotic disorders with concurrent substance use. *Journal of Dual Diagnosis*, 10(4), 177–186.
- Chadwick, P., Birchwood, M., & Trower, P. (1996). *Cognitive therapy for delusions, voices and paranoia*. Oxford, England: John Wiley.

- Chang, W. C., Tang, J. Y. M., Hui, C. L. M., Chiu, C. P. Y., Lam, M. M. L., Wong, G. H. Y., Chung, D. W. S., Law, C. W., Tso, S., Chan, K. P. M., Chan, S. F., Hung, E. Y. & Chen, E. Y. H. (2011). Gender differences in patients presenting with first-episode psychosis in Hong Kong: A three-year follow up study. *Australian and New Zealand Journal of Psychiatry*, 45(3), 199–205.
- Chaves, A. C., Addington, J., Seeman, M., & Addington, D. (2006). One-year stability of diagnosis in first-episode nonaffective psychosis: Influence of sex. *The Canadian Journal of Psychiatry*, 51(11), 711–714.
- Cheniaux, E., Landeira-Fernandez, J., & Versiani, M. (2009). The Diagnoses of Schizophrenia, Schizoaffective Disorder, Bipolar Disorder and Unipolar Depression: Interrater reliability and congruence between DSM-IV and ICD-10. *Psychopathology*, 42, 293–298.
- Chu, C., Abi-Dargham, A., Ackerman, B., Çeüngök, M., & Klein, H. E. (1989). Sex differences in schizophrenia. *International Journal of Social Psychiatry*, 35(3), 237–244.
- Clements, J., & Davies, E. (2013). Prevention of psychosis: Creating societies where more people flourish. In J. Read & J. Dillon (Eds.), *Models of Madness: Psychological, Social and Biological Approaches to Psychosis* (2nd ed., pp. 295–304). Hove, England: Routledge.
- Close, H., & Garety, P. A. (1998). Cognitive assessment of voices: Further developments in understanding the emotional impact of voices. *British Journal of Clinical Psychology*, 37(2), 173–188.
- Cochrane, R., & Bal, S. S. (1987). Migration and schizophrenia: an examination of five hypotheses. *Social Psychiatry*, 22(4), 181–191.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.
- Connor, C., & Birchwood, M. (2012). Abuse and dysfunctional affiliations in childhood: an exploration of their impact on voice-hearers' appraisals of power and expressed emotion. *Psychosis: Psychological, Social and Integrative Approaches*, 4(1), 19–31.

- Conrad, A. M., Lewin, T. J., Sly, K. A., Schall, U., Halpin, S. A., Hunter, M., & Carr, V. J. (2014). Ten-year audit of clients presenting to a specialised service for young people experiencing or at increased risk for psychosis, *BMC Psychiatry*, 14(1), 318.
- Corstens, D., & Longden, E. (2013). The origins of voices: links between life history and voice hearing in a survey of 100 cases. *Psychosis: Psychological, Social and Integrative Approaches*, 5(3), 270–285.
- Corstens, D., Longden, E., McCarthy-Jones, S., Waddingham, R., & Thomas, N. (2014). Emerging perspectives from the hearing voices movement: Implications for research and practice. *Schizophrenia Bulletin*, 40(4), 285–294.
- Cotton, S. M., Lambert, M., Schimmelmann, B. G., Foley, D. L., Morley, K. I., McGorry, P. D., & Conus, P. (2009). Gender differences in premorbid, entry, treatment, and outcome characteristics in a treated epidemiological sample of 661 patients with first episode psychosis. *Schizophrenia Research*, 114(1–3), 17–24.
- Courtenay, W. H. (2000). Constructions of masculinity and their influence on men's well-being: A theory of gender and health. *Social Science and Medicine*, 50(10), 1385–1401.
- Crosas, J. M., Cobo, J., Ahuir, M., Hernández, C., García, R., Pousa, E., Olivia, J. C., Monreal, J. A. & Palao, D. J. (2017). Substance abuse and gender differences in first episode psychosis: Impact on hospital readmissions. *Revista de Psiquiatria y Salud Mental*, 11(1), 27–35.
- Croudace, T. J., Amin, S., Singh, S., Jones, P., & Harrison, G. L. (1998). Mediating effects of gender differences at 3 year follow-up in a cohort of first onset psychoses. *Schizophrenia Research*, 29(1–2), 185.
- Daly, M., Wilson, M., & Weghorst, S. J. (1982). Male sexual jealousy. *Ethology and Sociobiology*, 3(1), 11–27.
- Dancey, C. P., & Reidy, J. (2011). *Statistics without maths for psychology*. Harlow, England: Prentice Hall.

- Das, J., Das, R. K., & Das, V. (2012). The mental health gender-gap in urban India: Patterns and narratives. *Social Science and Medicine*, 75(9), 1660–1672.
- de Pauw, K. W. (1994). Psychodynamic approaches to the Capgras delusion: a critical historical review. *Psychopathology*, 27(3–5), 154–60.
- de Portugal, E., González, N., Vilaplana, M., Haro, J. M., Usall, J., & Cervilla, J. A. (2010). Gender differences in delusional disorder: Evidence from an outpatient sample. *Psychiatry Research*, 177(1–2), 235–239.
- Degenhardt, L., Tennant, C., Gilmour, S., Schofield, D., Nash, L., Hall, W., & McKay, D. (2007). The temporal dynamics of relationships between cannabis, psychosis and depression among young adults with psychotic disorders: Findings from a 10-month prospective study. *Psychological Medicine*, 37(7), 927–934.
- Dhaliwal, G. K., Gauzas, L., Antonowicz, D. H., & Ross, R. R. (1996). Adult male survivors of childhood sexual abuse: Prevalence, sexual abuse characteristics, and long-term effects. *Clinical Psychology Review*, 16(7), 619–639.
- Diamond, M. (2002). Sex and gender are different: Sexual identity and gender identity are different. *Clinical Child Psychology and Psychiatry*, 7(3), 320–334.
- Díaz-Caneja, C. M., Pina-Camacho, L., Rodríguez-Quiroga, A., Fraguas, D., Parellada, M., & Arango, C. (2015). Predictors of outcome in early-onset psychosis: a systematic review. *NPJ Schizophrenia*, 1(1), 1–10.
- Doherty, D., & Kartalova-O'Doherty, Y. (2010). Gender and self-reported mental health problems: predictors of help seeking from a general practitioner. *British Journal of Health Psychology*, 15(1), 213–228.
- Dohn, H., & Crews, E. (1986). Capgras Syndrome: A literature review and case series. *Hillside Journal of Clinical Psychiatry*, 8(1), 56–74.
- Drake, R. J., Addington, J., Viswanathan, A. C., Lewis, S. W., Cotter, J., Yung, A. R., & Abel, K. M. (2016). How age and gender predict illness course in a first-episode nonaffective psychosis cohort. *Journal of Clinical Psychiatry*, 77(3), 283–289.

- Dube, S. R., Felitti, V. J., Dong, M., Chapman, D. P., Giles, W. H., & Anda, R. F. (2003). Childhood abuse, neglect, and household dysfunction and the risk of illicit drug use: The adverse childhood experiences study. *Pediatrics*, 111(3), 564–572.
- Ellenson, G. (1985). Detecting a history of incest: A predictive syndrome. *Social Casework*, 66(9), 525–532.
- Else-Quest, N. M. & Hyde, J. S. (2016). Intersectionality in quantitative psychological research: Theoretical and epistemological issues. *Psychology of Women Quarterly*, 40(2), 155–170.
- Ensink, B. (1992). *Confusing realities*. Amsterdam: Vu University.
- Falkenburg, J., & Tracy, D. K. (2014). Sex and schizophrenia: A review of gender differences. *Psychosis: Psychological, Social and Integrative Approaches*, 6(1), 61–69.
- Falukozi, E., & Addington, J. (2012). Impact of Trauma on Attenuated Psychotic Symptoms. *Psychosis: Psychological, Social and Integrative Approaches*, 4(3), 203–212.
- Famularo, R., Kinscherff, R., & Fenton, T. (1992). Psychiatric Diagnoses of Maltreated Children: Preliminary Findings. *Journal of the American Academy of Child and Adolescent Psychiatry*, 31(5), 863–867.
- Faul, F., Erdfelder, E., Buchner, A. & Lang, A. G. (2009). Statistical power analyses using G\*Power 3.1: Tests for correlation and regression analyses. *Behavioural Research Methods*, 41(4), 1149–1160.
- Feise, R. J. (2002). Do multiple outcome measures require p-value adjustment? *BMC Medical Research Methodology*, 2(1), 8.
- Ferdinand, R. F., Sondeijker, F., van der Ende, J., Selten, J.-P., Huizink, A., & Verhulst, F. C. (2005). Cannabis use predicts future psychotic symptoms, and vice versa. *Addiction*, 100(5), 612–618.
- Fergusson, D., Horwood, L., & Swain-Campbell, N. (2003). Cannabis dependence and psychotic symptoms in young people. *Psychological Medicine*, 33(01), 15–21.

- Fergusson, D., McLeod, G., & Horwood, L. (2013). Childhood sexual abuse and adult developmental outcomes: Findings from a 30-year longitudinal study in New Zealand. *Child Abuse and Neglect*, 37(9), 664–674.
- Fernando, S. (2003). *Cultural Diversity, Mental Health and Psychiatry: The Struggle Against Racism*. Hove: Brunner-Routledge.
- Field, T. A., Farnsworth, E. B., & Nielsen, S. K. (2015). Do Counselors Use Evidenced-Based Treatments ? Results of a Pilot Survey. *Visas Online*, 51.
- Fisher, H. L., Craig, T. K., Fearon, P., Morgan, K., Dazzan, P., Lappin, J., Hutchinson, G., Doody, G. A., Jones, P. B., McGuffin, P., Murray, R. M., Leff, J. & Morgan, C. (2011). Reliability and comparability of psychosis patients' retrospective reports of childhood abuse. *Schizophrenia Bulletin*, 37(3), 546–553.
- Fleming, M. (2004). Gender differences in schizophrenia: The need for a psychosocial and formulation based analysis? *Clinical Effectiveness in Nursing*, 8(3–4), 156–160.
- Foerstl, H. (1990). Capgras' delusion: An example of coalescent psychodynamic and organic factors. *Comprehensive Psychiatry*, 31(5), 447–449.
- Freeman, D., Garety, P. A., Fowler, D., Kuipers, E., Dunn, G., Bebbington, P., & Hadley, C. (1998). The London-East Anglia randomized controlled trial of cognitive-behaviour therapy for psychosis IV: Self-esteem and persecutory delusions. *The British Journal of Clinical Psychology*, 37(4), 415–30.
- Fresan, A., Apiquian, R., Ulloa, R. E., Loyzaga, C., Nicolini, H., & Gomez, L. (2003). Premorbid functioning by gender and its relationship with duration of untreated psychosis in first psychotic episode. *Actas Espanolas de Psiquiatria*, 31(2), 53–58.
- Fried, P., Watkinson, B., & Gray, R. (2005). Neurocognitive consequences of marihuana: A comparison with pre-drug performance. *Neurotoxicology and Teratology*, 27(2), 231–239.

- Friedman, S., Smith, L., Fogel, D., Paradis, C., Viswanathan, R., Ackerman, R., & Trappier, B. (2002). The incidence and influence of early traumatic life events in patients with panic disorder: A comparison with other psychiatric outpatients. *Journal of Anxiety Disorders*, 16(3), 259–272.
- Frith, C. (2005). The self in action: Lessons from delusions of control. *Consciousness and Cognition*, 14(4), 752–770.
- Galderisi, S., Bucci, P., Üçok, A., & Peuskens, J. (2012). No gender differences in social outcome in patients suffering from schizophrenia. *European Psychiatry*, 27(6), 406–408.
- Garety, P. A. (1985). Delusions: Problems in definition and measurement. *British Journal of Medical Psychology*, 58(1), 25–34.
- Garety, P. A., & Hemsley, D. R. (1994). *Delusions: investigations into the psychology of delusional reasoning*. Oxford, England: Oxford Psychology Press.
- Garety, P. A., Hemsley, D. R., & Wessely, S. (1991). Reasoning in deluded schizophrenic and paranoid patients. Biases in performance on a probabilistic inference task. *The Journal of Nervous and Mental Disease*, 179(4), 194–201.
- Garety, P. A., Kuipers, E., Fowler, D., Freeman, D., & Bebbington, P. E. (2001). A cognitive model of the positive symptoms of psychosis. *Psychological Medicine*, 31(2), 189–195.
- Gecici, O., Kuloglu, M., Guler, O., Ozbulut, O., Kurt, E., Onen, S., Ekinci, O., Yesilbas, D., Caykoylu, A., Emul, M., Alatas, G. & Albayrak, Y. (2010). Phenomenology of delusions and hallucinations in patients with schizophrenia. *Klinik Psikofarmakoloji Bulteni*, 20(3), 204–212.
- Geekie, J., & Read, J. (2009). *Making Sense of Madness*. Hove, England: Routledge.
- Gibson, L. E., Alloy, L. B., & Ellman, L. M. (2016). Trauma and the psychosis spectrum: A review of symptom specificity and explanatory mechanisms, *Clinical Psychology Review*, 49, 92–105.
- Girshick, L. B. (2008). *Transgender voices: Beyond women and men*. New England, US: University Press.

- Gogos, A., Joshua, N., & Rossell, S. L. (2010). Use of the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) to investigate group and gender differences in schizophrenia and bipolar disorder. *Australian & New Zealand Journal of Psychiatry*, 44(3), 220–229.
- Gold, J., & Gold, I. (2012). The Truman Show delusion: Psychosis in the global village. *Cognitive Neuropsychiatry*, 17(6), 455–472.
- Goldstein, J. (1988). Gender differences in the course of schizophrenia. *The American Journal of Psychiatry*, 145(6), 684–9.
- Goldstein, J., & Lewine, R. (2000). Overview of sex differences in schizophrenia: where have we been and where do we go from here. In *Women and schizophrenia* (pp. 111–143).
- Goldstein, J., Santangelo, S., Simpson, J., & Tsuang, M. (1990). The role of gender in identifying subtypes of schizophrenia: A latent class analytic approach. *Schizophrenia Bulletin*, 16(2), 263–275.
- Goldstein, J., Seidman, L., Goodman, J., Koren, D., Lee, H., Weintraub, S., & Tsuang, M. (1998). Are there sex differences in neuropsychological functions among patients with schizophrenia? *American Journal of Psychiatry*, 155(10), 1358–1364.
- Golombok, S., & Fivush, R. (1994). *Gender development*. Cambridge, England: Cambridge University Press.
- Good, G. E., Gilbert, L. A. & Scher, M. (1990). Gender Aware Therapy: A Synthesis of Feminist Therapy and Knowledge About Gender. *Journal of Counselling and Development*, 68(4), 376–380.
- Good, G., Robertson, J., Fitzgerald, L., Stevens, M., & Bartels, K. (1996). The Relation Between Masculine Role Conflict and Psychological Distress in Male University Counseling Center Clients. *Journal of Counseling & Development*, 75(1), 44–49.



- Goodman, L. A., Salyers, M. P., Mueser, K. T., Rosenberg, S. D., Swartz, M., Essock, S. M., Osher, F. C., Butterfield, M. I. & Swanson, J. (2001). Recent victimization in women and men with severe mental illness: Prevalence and correlates. *Journal of Traumatic Stress*, 14(4), 615–632.
- Grech, A., Van Os, J., Jones, P. B., Lewis, S. W., & Murray, R. M. (2005). Cannabis use and outcome of recent onset psychosis. *European Psychiatry*, 20(4), 349–353.
- Green, B., Young, R., & Kavanagh, D. (2005). Cannabis use and misuse prevalence among people with psychosis. *British Journal of Psychiatry*, 187(04), 306–313.
- Grolegger, U., & Novak-Grubič, V. (2010). Gender, psychosis and psychotropic drugs: Differences and similarities. *Psychiatria Danubina*, 22(2), 338–342.
- Grossman, L. S., Harrow, M., Rosen, C., & Faull, R. (2006). Sex differences in outcome and recovery for schizophrenia and other psychotic and nonpsychotic disorders. *Psychiatric Services*, 57(6), 844–850.
- Grossman, L. S., Harrow, M., Rosen, C., Faull, R., & Strauss, G. P. (2008). Sex differences in schizophrenia and other psychotic disorders: A 20-year longitudinal study of psychosis and recovery. *Comprehensive Psychiatry*, 49(6), 523–529.
- Gur, R. E., Turetsky, B. I., Bilker, W. B., & Gur, R. C. (1999). Reduced gray matter volume in schizophrenia. *Archives of General Psychiatry*, 56(10), 905.
- Haarmans, M. (2015). Psychosis and gender: Everything you always wanted to know about sex (and gender) in psychosis but were afraid to ask. In M. Sáenz-Herrero (Eds.), *Psychopathology in women: Incorporating gender perspective into descriptive psychopathology* (pp. 361–387). Liverpool, England: Springer International Publishing.
- Haarmans, M., Vass, V., & Bentall, R. P. (2016). Voices' use of gender, race and other social categories to undermine female voice-hearers: Implications for incorporating intersectionality within CBT for psychosis. *Psychosis: Psychological, Social and Integrative Approaches*, 8(3), 203–213.

- Häfner, H. (2002). Schizophrenia: do men and women suffer from the same disease? *Archives of Clinical Psychiatry*, 29(6), 267–292.
- Häfner, H., Riecher-Rössler, A., An der Heiden, W., Maurer, K., Fätkenheuer, B., & Löffler, W. (1993). Generating and testing a causal explanation of the gender difference in age at first onset of schizophrenia. *Psychological Medicine*, 23(4), 925–940.
- Hambrecht, M., Maurer, K., & Häfner, H. (1992). Gender differences in schizophrenia in three cultures: Results of the WHO collaborative study on psychiatric disability. *Social Psychiatry and Psychiatric Epidemiology*, 27(3), 117–121.
- Han, M., Huang, X.-F., Chen, D. C., Xiu, M. H., Hui, L., Liu, H., Kosten, T. R. & Zhang, X. Y. (2012). Gender differences in cognitive function of patients with chronic schizophrenia. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 39(2), 358–363.
- Hanlon, M., Campbell, L., Single, N., Coleman, C., Morgan, V., Cotton, S., Stain, H. J. & Castle, D. (2017). Men and women with psychosis and the impact of illness-duration on sex-differences: The second Australian national survey of psychosis. *Psychiatry Research*, 256, 130–143.
- Hanna, R. C., Shalvoy, A., Cullum, C. M., Ivleva, E. I., Keshavan, M., Pearlson, G., Hill, K. S., Sweeney, J. A., Tamminga, C. A. & Ghose, S. (2016). Cognitive function in individuals with psychosis: Moderation by adolescent cannabis use. *Schizophrenia Bulletin*, 42(6), 1496–1503.
- Hardy, A., Fowler, D., Freeman, D., Smith, B., Steel, C., Evans, J., Garety, P., Kuipers, E., Bebbington, P. & Dunn, G. (2005). Trauma and hallucinatory experience in psychosis. *Journal of Nervous and Mental Disease*, 193(8), 501–507.
- Harris, C. R. (2003). A Review of Sex Differences in Sexual Jealousy, Including Self-Report Data, Psychophysiological Responses, Interpersonal Violence, and Morbid Jealousy. *Personality and Social Psychology Review*, 7(2), 102–128.

- Harrison, G. L., Gunnell, D., Glazebrook, C., Page, K., & Kwiecinski, R. (2001). Association between schizophrenia and social inequality at birth: case-control study. *The British Journal of Psychiatry: The Journal of Mental Science*, 179(4), 346–50.
- Harrison, P., Fulkerson, J., & Beebe, T. (1997). Multiple substance use among adolescent physical and sexual abuse victims. *Child Abuse and Neglect*, 21(6), 529–539.
- Heins, T., Gray, A., & Tennant, M. (1990). Persisting Hallucinations following Childhood Sexual Abuse. *Australian & New Zealand Journal of Psychiatry*, 24(4), 561–565.
- Hemsley, D. R. (1998). The disruption of the “sense of self” in schizophrenia: potential links with disturbances of information processing. *The British Journal of Medical Psychology*, 71 (2), 115–24.
- Henquet, C., Krabbendam, L., Spauwen, J., Kaplan, C., Lieb, R., Wittchen, H.-U., & van Os, J. (2005). Prospective cohort study of cannabis use, predisposition for psychosis, and psychotic symptoms in young people. *British Medical Journal*, 330(7481), 11.
- Houston, J. E., Murphy, J., Adamson, G., Stringer, M., & Shevlin, M. (2008). Childhood sexual abuse, early cannabis use, and psychosis: Testing an interaction model based on the national comorbidity survey. *Schizophrenia Bulletin*, 34(3), 580–585.
- Hunot, V., Moore, T. H., Caldwell, D. M., Furukawa, T. A., Davies, P., Jones, H., Shinohara, K., Imai, H., Lewis, H. & Churchill, R. (2013). “Third wave” cognitive and behavioural therapies versus other psychological therapies for depression. In R. Churchill (Ed.), *Cochrane Database of Systematic Reviews*. Chichester, England: John Wiley & Sons, Ltd.
- Hutton, P., Weinmann, S., Bola, J., & Read, J. (2013). Antipsychotic drugs. In J. Read & J. Dillon (Eds.), *Models of Madness: Psychological, Social and Biological Approaches to Psychosis* (2nd ed., pp. 105–124). Hove, England: Routledge.

- Iacono, W. G., & Beiser, M. (1992). Are males more likely than females to develop schizophrenia? *The American Journal of Psychiatry*, 149(8), 1070–1074.
- IBM Corporation. (2013). *IBM SPSS Statistics for Windows, Version 22.0*. Armonk, NY: IBM Corporation.
- Irwin, H. (2009). *Psychology of Paranormal Belief*. Hertfordshire, England: University of Hertfordshire Press.
- Ittig, S., Studerus, E., Papmeyer, M., Uttinger, M., Koranyi, S., Ramyea, A., & Riecher-Rössler, A. (2015). Sex differences in cognitive functioning in at-risk mental state for psychosis, first episode psychosis and healthy control subjects. *European Psychiatry*, 30(2), 242–250.
- Janssen, I., Hanssen, M., Bak, M., Bijl, R., de Graaf, R., Vollebergh, W., McKenzie, K. & van Os, J. (2003). Discrimination and delusional ideation. *The British Journal of Psychiatry: The Journal of Mental Science*, 182(1), 71–6.
- Janssen, I., Krabbendam, L., Bak, M., Hanssen, M., Vollebergh, W., De Graaf, R., & Van Os, J. (2004). Childhood abuse as a risk factor for psychotic experiences. *Acta Psychiatrica Scandinavica*, 109(1), 38–45.
- Jayaswal, S. K., Paraveenlal, K., Khandelwal, S. K., & Mohan, D. (1987). Sex difference in the age at symptom onset in schizophrenia. *Indian Journal of Psychological Medicine*, 10(2), 68–74.
- Joffe, H. (2011). Thematic Analysis. In *Qualitative Research Methods in Mental Health and Psychotherapy* (pp. 209–223). Chichester, England: John Wiley & Sons, Ltd.
- Johnstone, E. C., Crow, T. J., Johnson, A. L., & MacMillan, J. F. (1986). The Northwick Park study of first episodes of schizophrenia. I. Presentation of the illness and problems relating to admission. *British Journal of Psychiatry*, 148(2), 115–120.
- Joseph, J. (2013). “Schizophrenia” and heredity: Why the emperor (still) has no genes. In J. Read & J. Dillon (Eds.), *Models of Madness: Psychological, Social and Biological Approaches to Psychosis* (2nd ed., pp. 72–89). Hove, England: Routledge.

- Kavanagh, D. J., Waghorn, G., Jenner, L., Chant, D. C., Carr, V., Evans, M., ... Mcgrath, J. J. (2004). Demographic and clinical correlates of comorbid substance use disorders in psychosis: multivariate analyses from an epidemiological sample. *Schizophrenia Research*, 66, 115–124.
- Kay, S. R., Fiszbein, A., & Opler, L. A. (1987). The positive and negative syndrome scale (PANSS) for schizophrenia. *Schizophrenia Bulletin*, 13(2), 261–76.
- Kazdin, A. E. (1999). The meanings and measurement of clinical significance. *Journal of Consulting and Clinical Psychology*, 67(3), 332–339.
- Kendler, K. S., Masterson, C. C., & Davis, K. L. (1985). Psychiatric illness in first-degree relatives of patients with paranoid psychosis, schizophrenia and medical illness. *The British Journal of Psychiatry: The Journal of Mental Science*, 147(5), 524–31.
- Kilpatrick, D. G., Acierno, R., Saunders, B., Resnick, H. S., Best, C. L., & Schnurr, P. P. (2000). Risk factors for adolescent substance abuse and dependence: Data from a national sample. *Journal of Consulting and Clinical Psychology*, 68(1), 19–30.
- Kim, B., Yu, J. M., Kim, S., Choi, S., Lee, H. S., Lee, K.-U., Choi, J. & Park, S.-C. (2015). Gender Differences in the Formal Thought Disorder in Patients with Schizophrenia. *Journal of Korean Neuropsychiatric Association*, 54(3), 291.
- Kingdon, D., Sharma, T., & Hart, D. (2004). What attitudes do psychiatrists hold towards people with mental illness? *Psychiatric Bulletin*, 28(11), 401–406.
- Kiran, C., & Chaudhury, S. (2009). Understanding delusions. *Industrial Psychiatry Journal*, 18(1), 3–18.
- Kirkbride, J. B., Fearon, P., Morgan, C., Dazzan, P., Morgan, K., Tarrant, J., Lloyd, T., Holloway, J., Leff, J. P., Mallett, R. M., Harrison, G. L., Murray, R. M. & Jones, P. B. (2006). Heterogeneity in incidence rates of schizophrenia and other psychotic syndromes. *Archives of General Psychiatry*, 63(3), 250.
- Kirmani, M., Sharma, P., & Jahan, F. (2015). Gender and Mental Health. *The International Journal of Indian Psychology ISSN*, 2(4), 30–43.

- Knowles, R., McCarthy-Jones, S., & Rowse, G. (2011). Grandiose delusions: A review and theoretical integration of cognitive and affective perspectives. *Clinical Psychology Review*, 31, 684–696.
- Köhler, S., M., van der Werf, M., Hart, B., Morrison, G., McCreadie, R., Kirkpatrick, B., Verkaaik, M., Krabbendam, L., Verhey, F., van Os, J. & Allardyce, J. (2009). Evidence that better outcome of psychosis in women is reversed with increasing age of onset: A population-based 5-year follow-up study. *Schizophrenia Research*, 113(2/3), 226–232.
- Kreyenbuhl, J., Nossel, I. R., & Dixon, L. B. (2009). Disengagement from mental health treatment among individuals with schizophrenia and strategies for facilitating connections to care: a review of the literature. *Schizophrenia Bulletin*, 35(4), 696–703.
- Kuipers, E., & Bebbington, P. E. (1988). Expressed emotion research in schizophrenia: theoretical and clinical implications. *Psychological Medicine*, 18(4), 893–909.
- Kuipers, E., Garety, P. A., Fowler, D., Dunn, G., Bebbington, P., Freeman, D., & Hadley, C. (1997). London-East Anglia randomised controlled trial of cognitive-behavioural therapy for psychosis. I: Effects of the treatment phase. *British Journal of Psychiatry*, 171(10), 319–327.
- Large, M., Sharma, S., Compton, M., Slade, T., & Nielssen, O. (2011). Cannabis use and earlier onset of psychosis: A systematic meta-analysis. *Archives of General Psychiatry*, 68(6), 555–561.
- Larsen, T. K., McGlashan, T. H., Johannessen, J. O., & Vibe-Hansen, L. (1996). First-episode schizophrenia: II. Premorbid patterns by gender. *Schizophrenia Bulletin*, 22(2), 257–269.
- Legg, L., & Gilbert, P. (2006). A pilot study of gender of voice and gender of voice hearer in psychotic voice hearers. *Psychology and Psychotherapy*, 79(4), 517–527.

- Leucht, S., Tardy, M., Komossa, K., Heres, S., Kissling, W., Salanti, G., & Davis, J. M. (2012). Antipsychotic drugs versus placebo for relapse prevention in schizophrenia: A systematic review and meta-analysis. *The Lancet*, 379(9831), 2063–2071.
- Lewis, S., Tarrier, N., Haddock, G., Bentall, R. P., Kinderman, P., Kingdon, D., Siddle, R., Drake, R., Everitt, J., Leadley, K., Benn, A., Grazebrook, K., Haley, C., Akhtar, S., Davies, L., Palmer, S., Faragher, B. & Dunn, G. (2002). Randomised controlled trial of cognitive-behavioural therapy in early schizophrenia: Acute-phase outcomes. *British Journal of Psychiatry*, 181(43), 91–97.
- Lincoln, T. M., Lange, J., Burau, J., Exner, C., & Moritz, S. (2010). The effect of state anxiety on paranoid ideation and jumping to conclusions: An experimental investigation. *Schizophrenia Bulletin*, 36(6), 1140–1148.
- Lindamer, L. A., Bailey, A., Hawthorne, W., Folsom, D. P., Gilmer, T. P., Garcia, P., ... Jeste, D. V. (2003). Gender differences in characteristics and service use of public mental health patients with schizophrenia. *Psychiatric Services*, 54(10), 1407–1409.
- Longden, E., Sampson, M., & Read, J. (2015). Childhood adversity and psychosis: generalised or specific effects? *Epidemiology and Psychiatric Sciences*, 25(4), 349–359.
- Mallett, R., Leff, J., Bhugra, D., Pang, D., & Zhao, J. H. (2002). Social environment, ethnicity and schizophrenia. *Social Psychiatry and Psychiatric Epidemiology*, 37(7), 329–335.
- Maric, N., Krabbendam, L., Vollebergh, W., De Graaf, R., & Van Os, J. (2003). Sex differences in symptoms of psychosis in a non-selected, general population sample. *Schizophrenia Research*, 63(1–2), 89–95.
- Marszalek, J. M., Barber, C., Kohlhart, J. & Holmes, C. B. (2011). Sample size in psychological research over the past 30 years. *Perceptual and Motor Skills*, 112(2), 331–348.

- Mattsson, M., Flyckt, L., Edman, G., Nyman, H., Cullberg, J., & Forsell, Y. (2008). Gender differences in determinants of five-year outcome in patients with first-episode psychosis. *European Psychiatry*, 23(Supplement), S387.
- Mayhew, S. L., & Gilbert, P. (2008). Compassionate mind training with people who hear malevolent voices: A case series report. *Clinical Psychology & Psychotherapy*, 15(2), 113–138.
- McCarthy-Jones, S., Romero, M. C., McCarthy-Jones, R., Dillon, J., Cooper-Rompato, C., Kieran, K., Kaufman, M. & Blackman, L. (2015). Hearing the unheard: An interdisciplinary, mixed methodology study of women's experiences of hearing voices (auditory verbal hallucinations). *Frontiers in Psychiatry*, 6(1), 1071.
- McCreadie, R. G., Thara, R., Padmavati, R., Srinivasan, T. N., & Jaipurkar, S. D. (2002). Structural brain differences between never-treated patients with schizophrenia, with and without dyskinesia, and normal control subjects: A magnetic resonance imaging study. *Archives of General Psychiatry*, 59(4), 332–336.
- Menon, M. S., Cornelio, N., & Saraswathy, K. (1980). Delusions — a Study in Sex Differences. *International Journal of Social Psychiatry*, 26(2), 93–98.
- Merrin, E. L., & Silberfarb, P. M. (1976). The Capgras Phenomenon. *Archives of General Psychiatry*, 33(8), 965.
- Mirowsky, J., & Ross, C. E. (1983). Paranoia and the structure of powerlessness. *American Sociological Review*, 48(2), 228–239.
- Mitropoulos, G. B., Gorgoli, D., Houlis, D., Korompili, K., Lagiou, C., & Gerontas, A. (2015). Psychosis and societal prescriptions of gender; a study of 174 inpatients. *Psychosis: Psychological, Social and Integrative Approaches*, 7(4), 324–335.
- Mojtabai, R., & Nicholson, R. A. (1995). Interrater reliability of ratings of delusions and bizarre delusions. *American Journal of Psychiatry*, 152(12), 1804–1806.



- Molnar, B., Buka, S., & Kessler, R. (2001). Child sexual abuse and subsequent psychopathology: Results from the national comorbidity survey. *American Journal of Public Health*, 91(5), 753–760.
- Moncrieff, J. (2009). A critique of the dopamine hypothesis of schizophrenia and psychosis. *Harvard Review of Psychiatry*, 17(3), 214–225
- Moncrieff, J., Cohen, D., & Mason, J. P. (2009). The subjective experience of taking antipsychotic medication: A content analysis of Internet data. *Acta Psychiatrica Scandinavica*, 120(2), 102–111.
- Morgan, V., Castle, D., & Jablensky, A. (2008). Do women express and experience psychosis differently from men? Epidemiological evidence from the Australian National Study of Low Prevalence (Psychotic) Disorders. *The Australian and New Zealand Journal of Psychiatry*, 42(1), 74–82.
- Morgan, V., McGrath, J., Jablensky, A., Badcock, J., Waterreus, A., Bush, R., Carr, V., Castle, D., Cohen, M., Galletly, C., Harvey, C., Hocking, B., McGorry, P., Neil, A. L., Saw, S., Shah, S., Stain, H. J. & Mackinnon, A. (2014). Psychosis prevalence and physical, metabolic and cognitive co-morbidity: Data from the second Australian national survey of psychosis. *Psychological Medicine*, 44(10), 2163–2176.
- Morrison, A. P. (2001). The interpretation of intrusions in psychosis: An integrative cognitive approach to hallucinations and delusions. *Behavioural and Cognitive Psychotherapy*, 29(3), 257–276.
- Murphy, J., Shevlin, M., Adamson, G., & Houston, J. E. (2010). Positive psychosis symptom structure in the general population: Assessing dimensional consistency and continuity from “pathology” to “normality.” *Psychosis*, 2(3), 199–209.
- National Institute for Clinical Excellence. (2014). *Psychosis and schizophrenia in adults: Prevention and management [Clinical Guideline 178]*. London: National Institute for Clinical Excellence. Retrieved on 30th April 2018 from <https://www.nice.org.uk/guidance/cg178>.

- National Institute for Clinical Excellence. (2015). *Psychosis and schizophrenia in adults [Quality Standard 80]*. London: National Institute for Clinical Excellence. Retrieved on 30th April 2018 from <https://www.nice.org.uk/guidance/qs80>.
- Navari, S., & Dazzan, P. (2009). Do antipsychotic drugs affect brain structure? A systematic and critical review of MRI findings. *Psychological Medicine*, 39(11), 1763.
- Neria, Y., Bromet, E. J., Sievers, S., Lavelle, J., & Fochtmann, L. J. (2002). Trauma exposure and posttraumatic stress disorder in psychosis: findings from a first-admission cohort. *Journal of Consulting and Clinical Psychology*, 70(1), 246–51.
- Newman, L. K. (2002). Sex, gender and culture: Issues in the definition, assessment and treatment of gender identity disorder. *Clinical Child Psychology and Psychiatry*, 7(3), 352–359.
- Newman, R., Jones, A. & Scrivener, A. (2018). A narrative support group for teenage girls with first episode psychosis and a history of bullying. *Clinical Psychology Forum*, 304(4), 5–10.
- NHS England. (2016). *Implementing the Early Intervention in Psychosis Access and Waiting Time Standard: Guidance*. London: NHS England. Retrieved on 30th April 2018 on <https://www.england.nhs.uk/mental-health/resources/access-waiting-time/>.
- Nosé, M., Barbui, C., & Tansella, M. (2003). How often do patients with psychosis fail to adhere to treatment programmes? A systematic review. *Psychological Medicine*, 33(7), 1149–60.
- O'Brien, A., Fahmy, R., & Singh, S. P. (2009). Disengagement from mental health services. *Social Psychiatry and Psychiatric Epidemiology*, 44(7), 558–568.
- O'Hare, T. (1995). Mental health problems and alcohol abuse: Co-occurrence and gender differences. *Health & Social Work*, 20(3), 207–14.
- O'Reilly, R., & Malhotra, L. (1987). Capgras syndrome--an unusual case and discussion of psychodynamic factors. *The British Journal of Psychiatry: The Journal of Mental Science*, 151, 263–5.

- Ochoa, S., Suarez, D., Novick, D., Arranz, B., Roca, M., Baño, V., & Haro, J. M. (2013). Factors predicting hostility in outpatients with schizophrenia: 36-month results from the SOHO study. *Journal of Nervous and Mental Disease*, 201(6), 464–470.
- Ochoa, S., Usall, J., Cobo, J., Labad, X., & Kulkarni, J. (2012). Gender differences in schizophrenia and first-episode psychosis: A comprehensive literature review. *Schizophrenia Research and Treatment*, 2012, 1–9.
- Pandurangi, A. K., Sax, K. W., Pelonero, A. L., & Goldberg, S. C. (1994). Sustained attention and positive formal thought disorder in schizophrenia. *Schizophrenia Research*, 13(2), 109–116.
- Pang, S., Subramaniam, M., Abidin, E., Poon, L. Y., Chong, S. A., & Verma, S. (2016). Gender differences in patients with first-episode psychosis in the Singapore Early Psychosis Intervention Programme. *Early Intervention in Psychiatry*, 10(6), 528–534.
- Paruk, S., Jhazbhay, K., Singh, K., Sartorius, B., & Burns, J. K. (2015). Clinical correlates of first episode early onset psychosis in KwaZulu-Natal, South Africa. *Journal of Child and Adolescent Mental Health*, 27(2), 103–111.
- Paton, C., Duffett, R., Harrington, M., Lelliott, P., Okocha, C., & Sensky, T. (2003). Patterns of Antipsychotic and Anticholinergic Prescribing for Hospital Inpatients. *Journal of Psychopharmacology*, 17(2), 223–229.
- Pelosi, A., & Birchwood, M. (2003). Is early intervention for psychosis a waste of valuable resources? *The British Journal of Psychiatry: The Journal of Mental Science*, 182(3), 196–8.
- Peters, E. R., Joseph, S., Day, S., & Garety, P. A. (2004). Measuring Delusional Ideation: The 21-Item Peters et al. Delusions Inventory (PDI). *Schizophrenia Bulletin*, 30(4), 1005–1022.
- Peters, E. R., Moritz, S., Schwannauer, M., Wiseman, Z., Greenwood, K. E., Scott, J., Beck, A. T., Donaldson, C., Hagen, R., Ross, K., Veckenstedt, R., Ison, R., Williams, S., Kuipers, E. & Garety, P. A. (2014). Cognitive biases questionnaire for psychosis. *Schizophrenia Bulletin*, 40(2), 300–313.

- Petersen, L., Jeppesen, P., Thorup, A., Abel, M.-B., Øhlenschlaeger, J., Christensen, T. Ø., Krarup, G., Jorgensen, P. & Nordentoft, M. (2005). A randomised multicentre trial of integrated versus standard treatment for patients with a first episode of psychotic illness. *British Medical Journal*, 331(7517), 602.
- Petkari, E., Mayoral, F., & Moreno-Küstner, B. (2017). Gender matters in schizophrenia-spectrum disorders: Results from a healthcare users epidemiological study in Malaga, Spain. *Comprehensive Psychiatry*, 72, 136–143.
- Pilgrim, D. (2005). Defining mental disorder: Tautology in the service of sanity in British mental health legislation. *Journal of Mental Health*, 14(5), 435–443.
- Pilgrim, D., & Bentall, R. (1999). The medicalisation of misery: A critical realist analysis of the concept of depression. *Journal of Mental Health*, 8(3), 261–274.
- Pilling, S., Bebbington, P., Kuipers, E., Garety, P. A., Geddes, J., Orbach, G., & Morgan, C. (2002). Psychological treatments in schizophrenia: I. Meta-analysis of family intervention and cognitive behaviour therapy. *Psychological Medicine*, 32(05), 763–782.
- Pinals, D. A., Malhotra, A. K., Missar, C. D., Pickar, D., & Breier, A. (1996). Lack of gender differences in neuroleptic response in patients with schizophrenia. *Schizophrenia Research*, 22(3), 215–222.
- Preston, N., Orr, K., Date, R., Nolan, L., & Castle, D. (2002). Gender differences in premorbid adjustment of patients with first episode psychosis. *Schizophrenia Research*, 55(3), 285–290.
- Raine, A. (1992). Sex differences in schizotypal personality in a nonclinical population. *Journal of Abnormal Psychology*, 101(2), 361–364.
- Razzaque, R., & Stockmann, T. (2016). An introduction to peer-supported open dialogue in mental healthcare. *BJPsych Advances*, 22(5), 348–356.
- Read, J. (1997). Child abuse and psychosis: A literature review and implications for professional practice. *Professional Psychology: Research and Practice*, 28(5), 448–456.

- Read, J. (2010). Can Poverty Drive You Mad? "Schizophrenia", Socio-Economic Status and the Case for Primary Prevention. *New Zealand Journal of Psychology*, 39(2).
- Read, J. (2013). Does "schizophrenia" exist: Reliability and validity. In J. Read & J. Dillon (Eds.), *Models of Madness: Psychological, Social and Biological Approaches to Psychosis* (2nd ed., pp. 47–61). Hove, England: Routledge.
- Read, J., Agar, K., Argyle, N., & Aderhold, V. (2003). Sexual and physical abuse during childhood and adulthood as predictors of hallucinations, delusions and thought disorder. *Psychology and Psychotherapy: Theory, Research and Practice*, 76, 1–22.
- Read, J., & Argyle, N. (1999). Hallucinations, delusions and thought disorder among adult psychiatric inpatients with a history of child abuse. *Psychiatric Services*, 50(11), 1467–1472.
- Read, J., & Beavan, V. (2013). Gender and psychosis. In J. Read, & J. Dillon (Eds.), *Models of madness: Psychological, social and biological approaches to psychosis*. (pp. 210–219). Hove, England: Routledge.
- Read, J., Bentall, R., & Fosse, R. (2009). Time to abandon the bio-bio-bio model of psychosis: Exploring the epigenetic and psychological mechanisms by which adverse life events lead to psychotic symptoms. *Epidemiology and Psychiatric Sciences*, 18(4), 299–310.
- Read, J., & Bentall, R. P. (2012). Negative childhood experiences and mental health: Theoretical, clinical and primary prevention implications. *British Journal of Psychiatry*, 200(2), 89–91.
- Read, J., & Bentall, R. P. (2013). Madness. In J. Cromby, D. Harper, & P. Reavey (Eds.), *Psychology, mental health and distress* (pp. 249–283). Basingstoke, England: Palgrave Macmillan.
- Read, J., Fink, P. J., Rudegeair, T., Felitti, V., & Whitfield, C. L. (2008). Child Maltreatment and Psychosis: A Return to a Genuinely Integrated Bio-Psycho-Social Model. *Clinical Schizophrenia & Related Psychoses*, 2(3), 235–254.

- Read, J., Hammersley, P., & Rudegeair, T. (2007). Why, when and how to ask about childhood abuse, *Psychiatric Treatment*, 13(2), 101–110.
- Read, J., Harper, D., Tucker, I., & Kennedy, A. (2017). Do adult mental health services identify child abuse and neglect? A systematic review. *International Journal of Mental Health Nursing*, 7–19.
- Read, J., Johnstone, L., & Taitimu, M. (2013). Psychosis, poverty and ethnicity. In J. Read & J. Dillon (Eds.), *Models of Madness: Psychological, Social and Biological Approaches to Psychosis* (2nd ed., pp. 191–209). Hove, England: Routledge.
- Read, J., McGregor, K., Coggan, C., & Thomas, D. (2006). Mental health services and sexual abuse the need for staff training. *Journal of Trauma and Dissociation*, 7(1), 33–50.
- Read, J., Perry, B., Moskowitz, A., & Connolly, J. (2001). The contribution of early traumatic events to schizophrenia in some patients: A traumagenic neurodevelopmental model. *Psychiatry: Interpersonal and Biological Processes*, 64(4), 319–345.
- Read, J., Van Os, J., Morrison, A., & Ross, C. (2005). Childhood trauma, psychosis and schizophrenia: A literature review with theoretical and clinical implications. *Acta Psychiatrica Scandinavica*, 112(5), 330–350.
- Reiff, M., Castille, D. M., Muenzenmaier, K., & Link, B. (2012). Childhood abuse and the content of adult psychotic symptoms. *Psychological Trauma: Theory, Research, Practice, and Policy*, 4(4), 356–369.
- Resende, A. C., Viglione, D. J., & de Lima Argimon, I. I. (2009). Gender differences in schizophrenia through Rorschach technique. *Psico*, 40(3), 279–286.
- Rhodes, J., Jakes, S., & Robinson, J. (2005). A qualitative analysis of delusional content. *Journal of Mental Health*, 14(4), 383–398.
- Riecher-Rössler, A. (2016). Early psychosis in young women. *European Psychiatry*, 33, Supple, S7.

- Rietschel, L., Lambert, M., Karow, A., Zink, M., Müller, H., Heinz, A., de Millas, W., Janssen B., Gaebel, W., Schneider, F., Naber, D., Juckel, G., Kruger-Ozgurdal, S., Wobrock, T., Wagner, M., Maier, W., Klosterkötter, J. & Bechdolf, A. (2017). Clinical high risk for psychosis: gender differences in symptoms and social functioning. *Early Intervention in Psychiatry*, 11(4), 306–313.
- Ring, N., Tantam, D., Montague, L., Newby, D., Black, D., & Morris, J. (1991). Gender differences in the incidence of definite schizophrenia and atypical psychosis: Focus on negative symptoms of schizophrenia. *Acta Psychiatrica Scandinavica*, 84(6), 489–496.
- Robinson, D. G., Woerner, M. G., Napolitano, B., Patel, R. C., Sevy, S. M., Gunduz-Bruce, H., Soto-Perello, J. M., Mendelowitz, A., Khadivi, A., Miller, R., McCormack, J., Lorell, B. S., Lesser, M. L., Schooler, N. R. & Kane, J. M. (2006). Randomized Comparison of Olanzapine Versus Risperidone for the Treatment of First-Episode Schizophrenia: 4-Month Outcomes. *American Journal of Psychiatry*, 163(12), 2096–2102.
- Romito, P., & Grassi, M. (2007). Does violence affect one gender more than the other? The mental health impact of violence among male and female university students. *Social Science and Medicine*, 65(6), 1222–1234.
- Romme, M. A., & Escher, A. D. (1989). Hearing Voices. *Schizophrenia Bulletin*, 15(2), 209–216.
- Rosenfield, S. (1999). Gender and mental health: Do women have more psychopathology, men more, or both the same (and why)? In A.V. Horwitz & T.L. Scheid (Eds.) *A Handbook for the Study of Mental Health: Social Contexts, Theories, and Systems* (pp.348–360). New York, NY: Cambridge University Press.
- Rössler, V., Richter, R., & Walter, M. H. (2016). Delusion and gender in paranoid schizophrenia: Results of a clinical study. *Fortschritte Der Neurologie-Psychiatrie*, 84(11), 669–674.
- Rudden, M., Sweeney, J., Frances, A., & Gilmore, M. (1983). A comparison of delusional disorders in women and men. *American Journal of Psychiatry*, 140(12), 1575–1578.

- Sachs-Ericsson, N., & Ciarlo, J. A. (2000). Gender, social roles, and mental health: An epidemiological perspective. *Sex Roles*, 43(9–10), 605–628.
- Segarra, R., Ojeda, N., Zabala, A., García, J., Catalán, A., Eguíluz, J. I., & Gutiérrez, M. (2012). Similarities in early course among men and women with a first episode of schizophrenia and schizophreniform disorder. *European Archives of Psychiatry and Clinical Neuroscience*, 262(2), 95–105.
- Seikkula, J., Aaltonen, J., Alakare, B., Haarakangas, K., Keränen, J., & Lehtinen, K. (2006). Five-year experience of first-episode nonaffective psychosis in open-dialogue approach: Treatment principles, follow-up outcomes, and two case studies. *Psychotherapy Research*, 16(2), 214–228.
- Shankar, R. (1991). Delusion of pregnancy in schizophrenia. *British Journal of Psychiatry*, 159(8), 285–286.
- Sharma, R., Dowd, S., & Janicak, P. (1999). Hallucinations in the acute schizophrenic-type psychosis: Effects of gender and age of illness onset. *Schizophrenia Research*, 37(1), 91–95.
- Shevlin, M., Dorahy, M. J., & Adamson, G. (2007). Trauma and Psychosis: An Analysis of the National Comorbidity Survey. *American Journal of Psychiatry*, 164(1), 166–169.
- Shevlin, M., McAnee, G., Bentall, R. P., & Murphy, J. (2015). Specificity of association between adversities and the occurrence and co-occurrence paranoia and hallucinations: Evaluating the stability of childhood risk in an adverse adult environment. *Psychosis: Psychological, Social and Integrative Approaches*, 7(3), 206–216.
- Shevlin, M., Murphy, J., Dorahy, M. J., & Adamson, G. (2007). The distribution of positive psychosis-like symptoms in the population: A latent class analysis of the National Comorbidity Survey. *Schizophrenia Research*, 89(1–3), 101–109.
- Shin, S. H., Hong, H. G., & Hazen, A. L. (2010). Childhood sexual abuse and adolescent substance use: A latent class analysis. *Drug and Alcohol Dependence*, 109(1–3), 226–235.



- Silva, J. A., Leong, G. B., Weinstock, R., & Boyer, C. L. (1989). Capgras syndrome and dangerousness. *The Bulletin of the American Academy of Psychiatry and the Law*, 17(1), 5–14.
- Sinkman, A. M. (1983). The Capgras delusion: a critique of its psychodynamic theories. *American Journal of Psychotherapy*, 37(3), 428–38.
- Sitko, K., Bentall, R. P., Shevlin, M., O’Sullivan, N., & Sellwood, W. (2014). Associations between specific psychotic symptoms and specific childhood adversities are mediated by attachment styles: An analysis of the National Comorbidity Survey. *Psychiatry Research*, 217(3), 202–209.
- Smith, S. (2010). Gender differences in antipsychotic prescribing. *International Review of Psychiatry*, 22(5), 472–484.
- Soyka, M., & Schmidt, P. (2011). Prevalence of delusional jealousy in psychiatric disorders. *Journal of Forensic Sciences*, 56(2), 450–452.
- Spandler, H., McKeown, M., Roy, A. & Hurley, M. (2013). Football metaphor and mental well-being: An evaluation of the It's a Goal! Programme. *Journal of Mental Health*, 22(6), 544–554.
- Spandler, H., Roy, A., & McKeown, M. (2014). Playing by the rules? Gender relations in a football and mental health project. *The Journal of Men’s Studies*, 22(2), 140-154.
- Spencer, C., Castle, D., & Michie, P. (2002). Motivations that maintain substance use among individuals with psychotic disorders. *Schizophrenia Bulletin*, 28(2), 233–247.
- Srisurapanont, M., Ali, R., Marsden, J., Sunga, A., Wada, K., & Monteiro, M. (2003). Psychotic symptoms in methamphetamine psychotic in-patients. *International Journal of Neuropsychopharmacology*, 6(4), 347–352.
- Stefanis, N. C., Delespaul, P., Henquet, C., Bakoula, C., Stefanis, C. N., & Van Os, J. (2004). Early adolescent cannabis exposure and positive and negative dimensions of psychosis. *Addiction*, 99(10), 1333–1341.

- Stompe, T., Ortwein-Swoboda, G., Ritter, K., & Schanda, H. (2003). Old wine in new bottles? Stability and plasticity of the contents of schizophrenic delusions. *Psychopathology*, 36(1), 6–12.
- Stroup, T., Lieberman, J., Swartz, M., & McEvoy, J. (2000). Comparative effectiveness of antipsychotic drugs in schizophrenia. *Dialogues in Clinical Neuroscience*, 2(4), 373–9.
- Suhail, K. (2003). Phenomenology of delusions in Pakistani patients: Effect of gender and social class. *Psychopathology*, 36(4), 195–199.
- Suhail, K., & Chaudhry, H. (2006). Evolution of symptoms in the early course of Schizophrenia in Pakistan: Effect of age and gender. *Hong Kong Journal of Psychiatry*, 16(2), 57–64.
- Talamo, A., Centorrino, F., Tondo, L., Dimitri, A., Hennen, J., & Baldessarini, R. J. (2006). Comorbid substance-use in schizophrenia: relation to positive and negative symptoms. *Schizophrenia Research*, 86(1–3), 251–5.
- Tang, Y. Iang, Gillespie, C. F., Epstein, M. P., Mao, P. xian, Jiang, F., Chen, Q., Cai, Z., J. & Mitchell, P. B. (2007). Gender differences in 542 Chinese inpatients with schizophrenia. *Schizophrenia Research*, 97(1–3), 88–96.
- Thara, R., Henrietta, M., Joseph, A., Rajkumar, S., & Eaton, W. W. (1994). Ten-year course of schizophrenia: The Madras longitudinal study. *Acta Psychiatrica Scandinavica*, 90(5), 329–336.
- Theuma, M., Read, J., Moskowitz, A., & Stewart, A. (2007). Evaluation of a New Zealand early intervention service for psychosis. *New Zealand Journal of Psychology*, 36(3), 136–145.
- Thompson, B. (2006). *Foundations of behavioral statistics: An insight-based approach*. New York, US: The Guilford Press.
- Thompson, A., Nelson, B., McNab, C., Simmons, M., Leicester, S., McGorry, P. D., Bechdolf, A. & Yung, A. R. (2010). Psychotic symptoms with sexual content in the “ultra high risk” for psychosis population: Frequency and association with sexual trauma. *Psychiatry Research*, 177(1–2), 84–91.

- Thorup, A., Albert, N., Bertelsen, M., Petersen, L., Jeppesen, P., Le Quack, P., ... Nordentoft, M. (2014). Gender differences in first-episode psychosis at 5-year follow-up – two different courses of disease? Results from the OPUS study at 5-year follow-up. *European Psychiatry*, 29(1), 44–51.
- Thorup, A., Petersen, L., Jeppesen, P., Ohlenschlaeger, J., Christensen, T., Krarup, G., Jorgensen, P. & Nordentoft, M. (2007). Gender differences in young adults with first-episode schizophrenia spectrum disorders at baseline in the Danish OPUS study. *Journal of Nervous and Mental Disease*, 195(5), 396–405.
- Tien, A. Y. (1991). Distribution of hallucinations in the population. *Social Psychiatry and Psychiatric Epidemiology*, 26(6), 287–292.
- Usall, J., Araya, S., Ochoa, S., Busquets, E., Gost, A., & Márquez, M. (2001). Gender differences in a sample of schizophrenic outpatients. *Comprehensive Psychiatry*, 42(4), 301–305.
- Usall, J., Suarez, D., & Haro, J. (2007). Gender differences in response to antipsychotic treatment in outpatients with schizophrenia. *Psychiatry Research*, 153(3), 225–231.
- van der Kolk, B. A. & Fisler, R. (1995). Dissociation and the fragmentary nature of traumatic memories: Overview and exploratory study. *Journal of Traumatic Stress*, 8(4), 505–525.
- van Os, J., Bak, M., Hanssen, M., Bijl, R. V., De Graaf, R., & Verdoux, H. (2002). Cannabis use and psychosis: A longitudinal population-based study. *American Journal of Epidemiology*, 156(4), 319–327.
- van Os, J., Hanssen, M., Bijl, R. V., & Ravelli, A. (2000). Strauss (1969) revisited: A psychosis continuum in the general population? *Schizophrenia Research*, 45(1–2), 11–20.
- Varese, F., Smeets, F., Drukker, M., Lieveise, R., Lataster, T., Viechtbauer, W., ... Bentall, R. P. (2012). Childhood adversities increase the risk of psychosis: A meta-analysis of patient-control, prospective-and cross-sectional cohort studies. *Schizophrenia Bulletin*, 38(4), 661–671.

- Vaskinn, A., Sundet, K., Simonsen, C., Hellvin, T., Melle, I., & Andreassen, O. A. (2011). Sex differences in neuropsychological performance and social functioning in schizophrenia and bipolar disorder. *Neuropsychology*, 25(4), 499–510.
- Veen, N. D., Selten, J. P., van I, der T., Feller, W. G., Hoek, H. W., & Kahn, R. S. (2004). Cannabis use and age at onset of schizophrenia. *The American Journal of Psychiatry*, 161(3), 501–506.
- Vogel, B. F. (1974). The Capgras syndrome and its psychopathology. *American Journal of Psychiatry*, 131(8), 922–924.
- Wahl, O. F., & Hunter, J. (1992). Are Gender Effects Being Neglected in Schizophrenia Research? *Schizophrenia Bulletin*, 18(2), 313–318.
- Wallace, C., Mullen, P. E., Burgess, P., Palmer, S., Ruschena, D., & Browne, C. (1998). Serious criminal offending and mental disorder. *British Journal of Psychiatry*, 172(06), 477–484.
- Walston, F., David, A. S., & Charlton, B. G. (1998). Sex Differences in the Content of Persecutory Delusions. *Evolution and Human Behavior*, 19(4), 257–260.
- Waszak, C., Severy, L. J., Kafafi, L., & Badawi, I. (2001). Fertility Behavior and Psychological Stress: The Mediating Influence of Gender Norm Beliefs Among Egyptian Women. *Psychology of Women Quarterly*, 25(3), 197–208.
- Waters, F., Woodward, T., Allen, P., Aleman, A., & Sommer, I. (2012). Self-recognition deficits in schizophrenia patients with auditory hallucinations: A meta-analysis of the literature. *Schizophrenia Bulletin*, 38(4), 741–750.
- Weinmann, S., & Aderhold, V. (2010). Antipsychotic medication, mortality and neurodegeneration: The need for more selective use and lower doses. *Psychosis*, 2(1), 50–69.
- Wilkinson, R. G., & Pickett, K. (2009). *Why Equality is Better for Everyone*. London, England: Penguin.
- Willig, C. (2013). *Introducing qualitative research in psychology*. New York, US: McGraw-Hill International.

- Willig, C., & Stainton-Rogers, W. (2017). *Qualitative Research in Psychology*. Los Angeles, CA: Sage.
- Wilson, M., & Daly, M. (1992). The Man Who Mistook His Wife for a Chattel, The Man Who Mistook His Wife for a Chattel. In J.H. Barkow, L. Cosmides, J. Tooby (Eds.) *The Adapted Mind: Evolutionary Psychology and the Generation of Culture*. Oxford, England: Oxford University Press.
- World Health Organization. (2002). *Gender and Mental Health*. Geneva: World Health Organization. Retrieved on 30th April 2018 from <http://apps.who.int/iris/handle/10665/68884>.
- World Health Organization. (2004). *International statistical classification of diseases and related health problems (10th Ed.)*. Geneva: World Health Organization. Retrieved on 30<sup>th</sup> April 2018 from <http://apps.who.int/iris/handle/10665/42980>.
- Wykes, T., Steel, C., Everitt, B., & Tarrier, N. (2008). Cognitive behavior therapy for schizophrenia: Effect sizes, clinical models, and methodological rigor. *Schizophrenia Bulletin*, 34(3), 523–537.
- Zammit, S., Moore, T. H. M., Lingford-Hughes, A., Barnes, T. R. E., Jones, P. B., Burke, M., & Lewis, G. (2008). Effects of cannabis use on outcomes of psychotic disorders: systematic review. *The British Journal of Psychiatry: The Journal of Mental Science*, 193(5), 357–63.
- Zanelli, J., Morgan, K., Dazzan, P., Morgan, C., Russo, M., Pilecka, I., ... Reichenberg, A. (2013). Gender differences in neuropsychological performance across psychotic disorders—A multi-centre population based case-control study. *PLoS ONE*, 8(10).
- Zhang, X. Y., Chen, D. C., Qi, L. Y., Wang, F., Xiu, M. H., Chen, S., Wu, G. Y., Kosten, T. A. & Kosten, T. R. (2009). Gender differences in the prevalence, risk and clinical correlates of tardive dyskinesia in Chinese schizophrenia. *Psychopharmacology*, 205(4), 647–654.

- Zhang, X. Y., Chen, D. C., Xiu, M. H., De Yang, F., Haile, C. N., Kosten, T. A., & Kosten, T. R. (2012). Gender differences in never-medicated first-episode schizophrenia and medicated chronic schizophrenia patients. *Journal of Clinical Psychiatry*, 73(7), 1025–1033.
- Zubin, J., & Spring, B. (1977). Vulnerability: A new view of schizophrenia. *Journal of Abnormal Psychology*, 86(2), 103–126.

## 6. APPENDICES

### 6.1. Appendix 1: Letter of HRA Approval



**Health Research Authority**

Miss Amy Jones  
University of East London  
Water Lane  
Stratford  
E15 4LZ

Email: [hra.approval@nhs.net](mailto:hra.approval@nhs.net)

03 August 2017

Dear Miss Jones

#### **Letter of HRA Approval**

**Study title:** Gender differences in the experience of psychosis  
**IRAS project ID:** 229787  
**Sponsor:** University of East London

I am pleased to confirm that HRA Approval has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications noted in this letter.

#### **Participation of NHS Organisations in England**

The sponsor should now provide a copy of this letter to all participating NHS organisations in England.

*Appendix B* provides important information for sponsors and participating NHS organisations in England for arranging and confirming capacity and capability. Please read *Appendix B* carefully, in particular the following sections:

- *Participating NHS organisations in England* – this clarifies the types of participating organisations in the study and whether or not all organisations will be undertaking the same activities
- *Confirmation of capacity and capability* - this confirms whether or not each type of participating NHS organisation in England is expected to give formal confirmation of capacity and capability. Where formal confirmation is not expected, the section also provides details on the time limit given to participating organisations to opt out of the study, or request additional time, before their participation is assumed.
- *Allocation of responsibilities and rights are agreed and documented (4.1 of HRA assessment criteria)* - this provides detail on the form of agreement to be used in the study to confirm capacity and capability, where applicable.

Further information on funding, HR processes, and compliance with HRA criteria and standards is also provided.

It is critical that you involve both the research management function (e.g. R&D office) supporting each organisation and the local research team (where there is one) in setting up your study. Contact details and further information about working with the research management function for each organisation can be accessed from [www.hra.nhs.uk/hra-approval](http://www.hra.nhs.uk/hra-approval).

## Appendices

The HRA Approval letter contains the following appendices:

- A – List of documents reviewed during HRA assessment
- B – Summary of HRA assessment

## After HRA Approval

The attached document “After HRA Approval – guidance for sponsors and investigators” gives detailed guidance on reporting expectations for studies with HRA Approval, including:

- Working with organisations hosting the research
- Registration of Research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics and is updated in the light of changes in reporting expectations or procedures.

## Scope

HRA Approval provides an approval for research involving patients or staff in NHS organisations in England.

If your study involves NHS organisations in other countries in the UK, please contact the relevant national coordinating functions for support and advice. Further information can be found at <http://www.hra.nhs.uk/resources/applying-for-reviews/nhs-hsc-rd-review/>.

If there are participating non-NHS organisations, local agreement should be obtained in accordance with the procedures of the local participating non-NHS organisation.

## User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: <http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/>.

## HRA Training

We are pleased to welcome researchers and research management staff at our training days – see details at <http://www.hra.nhs.uk/hra-training/>

Your IRAS project ID is 229787. Please quote this on all correspondence.

Yours sincerely

Simon Connolly  
Senior Assessor  
Email: [hra.approval@nhs.net](mailto:hra.approval@nhs.net)

Copy to: *Professor John Read, University of East London*  
*Dr Mark Finn, University of East London*  
*Mr XX, XXX NHS Foundation Trust*



## 6.2. Appendix 2: Fields included in the data collection sheet

<b>PARTICIPANT</b>	Participant
	BRC-ID <sup>1</sup>
<b>DEMOGRAPHICS</b>	Gender
	Date of birth
	Date of entry to EIPS
	Age at entry to EIPS (or MH services)
	Ethnicity
	Primary psychotic diagnosis
	Other diagnoses
	Date of first inpatient admission
<b>LIFE AND ABUSE HISTORY</b>	Substance use
	Childhood bullying
	Childhood physical abuse
	Childhood emotional abuse
	Childhood sexual abuse
	Childhood neglect
	Childhood domestic violence
	Adult sexual assault/ abuse
	Adult emotional assault/ abuse
	Adult physical assault/ abuse
<b>DELUSIONS</b>	Grandiose
	Suspicious/ persecutory
	Erotomantic
	Somatic
	Reference
	Nihilistic
	Control
	Other
<b>HALLUCINATIONS</b>	Auditory
	Visual
	Tactile
	Olfactory
<b>THOUGHT DISORDER</b>	Excitement
	Hostility
	Thought insertion
	Thought withdrawal
	Thought broadcast
	Thought block
	Incoherence
	Tangentiality
	Flight of ideas/ pressure of speech
<b>DISORGANISED MOTOR</b>	Catatonia/ motor retardation

<sup>1</sup> Unique identifying number provided by the CRIS system

<b>NEGATIVE SYMPTOMS</b>	Blunted affect
	Emotional withdrawal
	Social withdrawal
	Difficulty in abstract thinking
	Poverty of speech
	Stereotyped thinking
	Anhedonia
	Avolition
	Cognitive deficit
<b>CONTENT OF DELUSIONS</b>	Grandiose
	Suspicious/ persecutory
	Erotomaniac
	Somatic
	Reference
	Nihilistic
	Control
	Other
<b>CONTENT OF HALLUCINATIONS</b>	Auditory
	Visual
	Tactile
	Olfactory
	Excitement
	Hostility

### 6.3. Appendix 3: Gender differences in the number of symptoms experienced

Symptom	Mann-Whitney U	Effect Size
Delusions	U (159) = -2578.5, p = .029*	r = -.46 (small)
Hallucinations	U (159) = -2545.5, p = .019*	r = -.38 (small)
Thought disorder	U (159) = -2525.5, p = .018*	r = -.38 (small)
Catatonia	U (159) = -3120.0, p = .746	r = -.10 (no effect)
Negative symptoms	U (159) = -2344.0, p = .001***	r = -.51 (medium)
Total symptoms	U (159) = -2380.5, p = .005**	r = -.52 (medium)

\* Significant at the .05 level

\*\* Significant at the .01 level

\*\*\* Significant at the .001 level

Bonferroni adjusted significance level, p = .0083.

#### 6.4. Appendix 4: Gender differences for specific psychotic symptoms

Symptom	Chi Squared	Effect Size
<b>DELUSIONS</b>	$\chi^2 (1) = 4.44, p = .035$	Phi = -.17 (small)
Grandiosity***	$\chi^2 (1) = 15.56, p < .001^{***}$	Phi = -.31 (medium)
Suspicious/ persecutory	$\chi^2 (1) = 3.84, p = .050$	Phi = -.16 (small)
Erotomaniac	Fisher's exact test, $p = .367$	Phi = .11 (small)
Somatic	$\chi^2 (1) = .04, p = .841$	Phi = .02 (no effect)
Reference	$\chi^2 (1) = .48, p = .490$	Phi = -.06 (no effect)
Nihilistic	Fisher's exact test, $p = .719$	Phi = -.06 (no effect)
Control	$\chi^2 (1) = 3.74, p = .053$	Phi = .15 (small)
Other	$\chi^2 (1) = .91, p = .339$	Phi = -.08 (no effect)
<b>HALLUCINATIONS</b>	$\chi^2 (1) = .16, p = .685$	Phi = -.03 (no effect)
Auditory	$\chi^2 (1) = .57, p = .449$	Phi = .06 (no effect)
Visual	$\chi^2 (1) = 3.03, p = .082$	Phi = .14 (small)
Tactile*	$\chi^2 (1) = 5.63, p = .018$	Phi = .19 (small)
Olfactory	$\chi^2 (1) = 2.09, p = .148$	Phi = .11 (small)
<b>THOUGHT DISORDER**</b>	$\chi^2 (1) = 10.16, p = .001^{***}$	Phi = -.25 (small)
Excitement	$\chi^2 (1) = .11, p = .744$	Phi = .03 (no effect)
Hostility***	$\chi^2 (1) = 15.75, p < .001^{***}$	Phi = -.31 (medium)
Thought insertion	$\chi^2 (1) = .23, p = .633$	Phi = .04 (no effect)
Thought withdrawal	$\chi^2 (1) = .15, p = .699$	Phi = -.03 (no effect)
Thought broadcast	$\chi^2 (1) = .43, p = .514$	Phi = -.05 (no effect)
Thought block	$\chi^2 (1) = .07, p = .786$	Phi = -.02 (no effect)
Incoherence	$\chi^2 (1) = .00, p = 1.000$	Phi = .00 (no effect)
Tangentiality	$\chi^2 (1) = .15, p = .699$	Phi = -.03 (no effect)
Pressure of speech*	$\chi^2 (1) = 6.18, p = .013$	Phi = -.20 (small)
<b>CATATONIA</b>	$\chi^2 (1) = .43, p = .514$	Phi = .05 (no effect)
<b>NEGATIVE SYMPTOMS*</b>	$\chi^2 (1) = 7.23, p = .007$	Phi = -.21 (small)
Blunted affect	$\chi^2 (1) = .78, p = .376$	Phi = -.07 (no effect)
Emotional withdrawal	Fisher's exact test, $p = 1.00$	Phi = .00 (no effect)
Social withdrawal***	$\chi^2 (1) = 13.79, p < .001^{***}$	Phi = -.29 (small)
Difficulty in abstract thinking	Fisher's exact test, $p = 1.000$	Phi = .00 (no effect)
Stereotyped thinking	Fisher's exact test, $p = .316$	Phi = .08 (no effect)
Poverty of speech	$\chi^2 (1) = .28, p = .598$	Phi = -.04 (no effect)
Anhedonia	$\chi^2 (1) = .36, p = .548$	Phi = -.05 (no effect)
Avolition*	$\chi^2 (1) = 5.98, p = .014$	Phi = -.19 (small)
Cognitive deficit	Fisher's exact test, $p = .367$	Phi = -.11 (small)

\* Significant at the .05 level

\*\* Significant at the .01 level

\*\*\* Significant at the .001 level

Bonferroni adjusted significance level,  $p = .00143$ .

## 6.5. Appendix 5: Gender differences in histories of substance use and abuse

History	Chi Squared	Effect Size	Gender
Substance use	$\chi^2 (1) = 22.556, p < .001^{***}$	Phi = -.375	Male
Childhood bullying	$\chi^2 (1) = 2.209, p = .137$	Phi = -.117	-
Childhood physical abuse	$\chi^2 (1) = .000, p = 1.000$	Phi = .000	-
Childhood emotional abuse	$\chi^2 (1) = .754, p = .385$	Phi = .069	-
Childhood sexual abuse	$\chi^2 (1) = 5.331, p = .021^*$	Phi = .183	Female
Childhood neglect	$\chi^2 (1) = .526, p = .468$	Phi = -.057	-
Childhood domestic violence	$\chi^2 (1) = .313, p = .576$	Phi = -.044	-
Adult sexual abuse	$\chi^2 (1) = 7.828, p = .005^{**}$	Phi = .221	Female
Adult emotional abuse	$\chi^2 (1) = .340, p = .560$	Phi = .046	-
Adult physical abuse	$\chi^2 (1) = .360, p = .548$	Phi = .047	-

\* Significant at the .05 level

\*\* Significant at the .01 level

\*\*\* Significant at the .001 level

Bonferroni adjusted significance level,  $p = .005$ .

## 6.6. Appendix 6: Gender differences in the content of psychotic experiences

THEME/ Sub-theme	Chi squared	Effect size	Gender
Being harmed, attacked or killed (non-specific)	$\chi^2 (1) = 6.60, p=.010$	Phi = -.203 (small)	Male
People are not who they seem	$\chi^2 (1) = 6.82, p=.009$	Phi = .207 (small)	Female
Everything is a movie/ game	Fisher's exact, $p=.059$	Phi = -.180 (small)	Male
Pregnancy	$\chi^2 (1) = 10.66, p=.001$	Phi = .258 (small)	Female
Unfaithfulness	Fisher's exact, $p=.059$	Phi = -.180 (small)	Male
Devil, demon or spirit is controlling them	Fisher's exact, $p=.059$	Phi = -.180 (small)	Male
SPECIAL POWERS OR ABILITIES	$\chi^2 (1) = 11.03, p<.001$	Phi = -.263 (small)	Male
Super powers or abilities (non-specific)	$\chi^2 (1) = 11.42, p<.001$	Phi = -.267 (small)	Male
HEARING NOISES	$\chi^2 (1) = 5.37, p=.020$	Phi = .183 (small)	Female
TACTILE HALLUCINATIONS	$\chi^2 (1) = 6.61, p=.010$	Phi = .203 (small)	Female
Being touched	$\chi^2 (1) = 9.00, p =.003$	Phi = .237 (small)	Female
Visual hallucinations of death or blood	Fisher's exact, $p=.059$	Phi = -.180 (small)	Male
Derogatory/ critical voice re. sexuality	Fisher's exact, $p=.059$	Phi = -.180 (small)	Male
Threat related to the voices	Fisher's exact, $p=.028$	Phi = -.197 (small)	Male

Bonferroni adjusted significance level,  $p = .000043478$ .

## 6.7. Appendix 7: Thematic analysis with definitions and examples

THEME/ SUB-THEME	DEFINITION	EXAMPLES
<b>BEING HARMED, ATTACKED OR KILLED</b>	Belief that someone is intending to or has attempted to harm, attack or kill them	
<b>Being harmed, attacked or killed (non-specific)</b>	Belief that someone is intending to or has attempted to harm, attack or kill them	People are trying to kill him [P1] People are going to hurt him [P22] People are trying to harm her [P127] "Other people" want to kill her [P138]
<b>Poison</b>	Belief that people are intending to or have attempted to poison or drug them	He was being "poisoned" [P40] Tap water is poisoned [P62] Someone will put rat poison in her food [P64] His food is being spiked or tampered with [P88]
<b>Black magic/ curse</b>	Belief that people are intending to or have attempted to curse them or cast black magic on them	People from his community have done black magic on him [P1] People are casting spells on him [P8] Someone is cursing her [P53] Neighbours have done black magic on her [P68]
<b>Break in/ intruders</b>	Belief that someone will break into, or has broken into, their house or room	People have been trying to break into the house at night [P4] Men are going to throw a brick into the house and gain access to the property [P110] Her ex-boyfriend has duplicated her key and people are using this duplicated key to enter her room [P153] Someone will break in at night and kill her at home [P62]
<b>Theft</b>	Belief that someone plans to steal from them or has stolen from them	People were out to steal his car [P89] Someone has been stealing his belongings [P98] Neighbours come into her flat to steal her electricity from her meter [P54] People are going into her room and stealing things [P59]
<b>People harming family members</b>	Belief that someone is intending to or has attempted to harm a family member, including their child/children	There is someone out there who wants to kill his mother [P6] His family might be harmed [P35] Her children are being tortured by other people [P59] People are trying to harm her baby [P136]
<b>BEING MONITORED BY OTHERS</b>	Belief that people are monitoring or watching them	
<b>Being monitored or followed by others (non-specific)</b>	Belief that people are monitoring or watching them	People are watching him when he is out in public [P4] He is being spied on by everyone [P37] People are spying on her [P70] Somebody is watching her at home [P72]

<b>Monitored by known people</b>	Belief that people known to them are monitoring them	He is being watched by his family [P4] His neighbour is watching him [P94] Neighbours are spying on her [P130] Husband and friends are spying on her [P160]
<b>Monitored via electronic devices</b>	Belief that electronic devices, including cameras and microphones, are being used to monitor them	Plugged in air fresheners, mirrors and TV have microphones in them [P13] There are surveillance cameras in his smoke alarm and television [P101] People are spying on her via her Sky box [P141] She is being spied on via a mobile phone app called spy wall [P153]
<b>Monitored by authorities, police or government organisations</b>	Belief that authorities (or people in authority) including the police or other organisations are monitoring them	The police have bugged the house [P82] The police are spying on him [P89] Police are running covert surveillance of him [P101] She is spied on by police and feels infiltrated by the Police and Government [P47]
<b>Being followed by others</b>	Belief that a person or group of people are following them	People are following him [P2] He is being followed [P88] Being followed when out of the house [P52] Followed by group of people [P75]
<b>TALKING/ LAUGHING/ LOOKING</b>	Belief that a person or group of people are talking about them, laughing about them or having negative thoughts about them	
<b>People are talking about them</b>	Belief that a person or group of people are talking about them	People are talking about him [P4] People from his past are talking about him [P5] People in public places talk about her [P47] People are talking about her [P136]
<b>People are laughing at them</b>	Belief that a person or group of people are laughing about them or at them	People are laughing at him [P4] People are laughing at him behind his back [P33] People in public places laugh at her [P47] The whole world is looking at her and laughing at her [P75]
<b>People are looking at them</b>	Belief that a person or group of people are looking or staring at them	People are staring at him [P29] People are looking at him [P33] People in public places look at her [P47] People are looking at her when she goes out [P72]
<b>CONSPIRACY</b>	Belief that people, groups of people, beings or organisations are conspiring or plotting against them	



<b>Conspiracy (non-specific)</b>	Belief that people, groups of people, beings or organisations are conspiring or plotting against them	His friend in Leicester has turned against him and got other people to turn against him [P109] There is a conspiracy against him [P112] There is a conspiracy against her [P54] People are plotting against her [P127]
<b>Family conspiring against them</b>	Belief that family members are involved in a conspiracy or plot against them	There is a deal between his grandmother and his friend to hide what happened to him at the age of 10, his face was broke and smashed and his family are hiding this issue from him [P14] Family are plotting against him [P38] Her family and the educational establishment were all working together [P67] Parents are changing plans to trick her [P125]
<b>Authorities, police or government organisations conspiring against them</b>	Belief that authorities, police or government organisations are involved in a conspiracy or plot against them	The police are trying to frame him [P10] The police are plotting how to get him [P89] The police are colluding with people and after her [P54] The government is conspiring against everyone [P127]
<b>Conspiracy with mental health services</b>	There is a conspiracy within mental health services, or between services and others	A lot of people, including the Devil, have plotted for him to be admitted in hospital [P10] There is a conspiracy against him, making him "iller" [P81] Family and husband have made her believe there is something wrong with her mentally [P64] Family members were out to destroy her and get her locked up [P75]
<b>DISTRUST OF MENTAL HEALTH SERVICES/ TREATMENT</b>	Lack of trust or suspicion of mental health services, staff or treatment	
<b>Mental health staff</b>	Belief that mental health staff mean them harm or cannot be trusted	Nurses are police officers [P10] Mental health staff are out to hurt him [P90] Nurses wanted to hurt her [P58] Ward staff are molesting children [P149]
<b>Medication</b>	Belief that they are being or will be harmed by psychiatric medication, or that medication is not being used in the way they have been told	Medication is a way of experimenting on him [P9] Medication is affecting the iron levels in his blood which is causing him to feel weak [P120] She is being poisoned by Quetiapine [P134] There has been a change in her skin because of Quetiapine [P159]
<b>THINGS ARE NOT REAL</b>	Belief that their life or people around them are unreal, fake or staged	
<b>People are not who they seem</b>	Belief that people around them are imposters, actors or	His mother is not his real mother [P10] Her mother was an imposter and that she has a biological mother somewhere [P63]

	not who they say they are	Actors are pretending to be nurses, doctors [P67] Her boss Peter (who has blond hair) is a "carbon copy" from the Peter who interviewed her initially (who was grey haired) [P159]
<b>Everything is a movie/ game/ simulation</b>	Belief that the world or their life is not real and instead a movie, game or simulation	His life is like the Matrix and he could prove who he really is via telephone [P9] There was a group who had put him in a simulation, they weren't exactly malign (they somehow wanted to "protect" him, but also were testing his limits) [P86] He is in a game [P94] He lives in the "Truman Show" [P99]
<b>GUILT</b>	Belief that they have harmed someone or done something wrong, or will do something wrong, which now they may be being punished for	Maybe he had done something wrong to someone and now something bad was happening to him [P1] God is punishing him [P11] Police are chasing her for the murders she has committed [P45] She has done something wrong [P68]
<b>BODY IS CHANGED OR DAMAGED</b>	Belief that body or functioning is changed, damaged or impaired	
<b>Body is changed or damaged (non-specific)</b>	Belief that body or functioning is changed, damaged or impaired	He has a hole in his throat and so cannot eat [P14] His face is deformed [P120] She was going blind [P53] She has a lump in her abdomen [P59]
<b>Genitals/ sexual organs</b>	Belief that genitals or sexual organs/function are damaged	He will squash his scrotum if he walks normally [P3]  His genitals are 'shrivelling' [P38] He has too much sperm [P40] Damaged his anal muscles and penis engaging in self anal stimulation [P105]
<b>Objects inserted or removed from body</b>	Belief that external objects have been inserted into body or that body parts have been removed	Objects have been placed in his ear [P14] Neighbours had taken his toenails [P23] Sharp stomach pain and stated that there are knives, blade and nylon bags in her stomach [P59] Sister-in-law took her brain [P134]
<b>Pregnancy</b>	Belief that person is pregnant or has recently had a child/ miscarriage	She is pregnant as she was having morning sickness [P64] She is pregnant [P68] She had artificial insemination and is now pregnant [P77] She is pregnant with the unborn baby Jesus [P79]
<b>Dirty or malodorous</b>	Belief that they are dirty or malodorous or contaminated e.g. 'her body smells'	Thoughts of being dirty [P3] Experiencing bad smells on her body [P51] Her body smells [P69] A bad smell around her and on her skin [P136]
<b>RELATIONSHIPS</b>	Belief centred on a romantic relationship	

<b>Unfaithfulness</b>	Belief that partner or family member is being unfaithful	His wife is cheating on him [P24] Girlfriend was being unfaithful [P16] Stepfather is cheating on mother [P26] Girlfriend was having an affair with his friend [P88]
<b>Delusional relationship</b>	Belief that they are in a relationship with someone	He is in a relationship with someone called Ryan [P5] She is getting married to a male peer from her school [P77] She is going to marry Cristiano Ronaldo [P140] She is in a relationship with a young man who works as a driver in family's take away shop [P55]
<b>SOMETHING BAD IS GOING TO HAPPEN</b>	Belief that something bad is going to happen to them, people they know or the world	
<b>Something bad is going to happen (non-specific)</b>	Belief that something bad is going to happen to them, people they know or the world	Something bad is going to happen to him [P15] Feeling of "impending doom" [P94] Convinced that something bad is going to happen to her and her family [P56] Sense of something bad happening [P62]
<b>Large-scale disaster</b>	Belief that a disaster on a national or global scale is going to occur	The world is doomed and that bad things were about to happen [P96] The world is coming to an end [P96] WWIII is inevitable [P111] A war will break out because of her being unwell [P70]
<b>Impending death</b>	Belief that they or someone one else is going to die soon	He is going to die soon [P86] He can die at any time [P97] She will die soon and would be better to go to heaven [P56] Somebody is going to die [P58]
<b>POSSESSION OR CONTROL</b>	Belief that the person is, or other people are, possessed or controlled by an external or internal force	
<b>Possession or control (non-specific)</b>	Belief that the person is, or other people are, possessed or controlled by an external or internal force	Forces have been influencing his parents [P4] Aliens are directing him [P85] She is possessed [P64] Pacemaker is controlling her [P128]
<b>Thoughts are being controlled</b>	Belief that their thoughts or their mind is being controlled by an external or internal force, or by another person	Forces are controlling his thoughts [P4] He has been brain washed by his dad [P13] She has been hypnotised and been under mind control [P67] A force was controlling the way she thought [P157]
<b>Actions are being controlled</b>	Belief that their actions are being controlled by an	Forces are controlling his actions [P4] People are controlling him [P37]

	external or internal force, or by another person	Knew that she was possessed because she started to do things that she would never do such as kissing boys [P63] She is not in control of her behaviour [P146]
<b>Known person is controlling them</b>	Belief that a known person is controlling their thoughts or actions	He has been brain washed by his dad [P13] His friend is controlling his thoughts and body [P107] The ward doctor was controlling her via a computer [P53] Her ex-husband has possessed her [P64]
<b>An organisation is controlling them</b>	Belief that an organisation is controlling their thoughts or actions	Thinks government is able to control people's minds by microwaves and microphones [P4] He is controlled by the state [P85] Freemasons have control over her [P67] Everything is being controlled by Russia and Japanese gangsters [P160]
<b>Devil, demon or spirit is controlling them</b>	Belief that a devil, demon or evil spirit is controlling their thoughts or actions	Controlled by the devil [P45] She was possessed as a child and taken over as a baby by the demon [P63] She is possessed and that there is a demon inside her that is encouraging her to do bad things [P77] She is possessed by the devil [P153]
<b>SOURCE OF NEGATIVE EXPERIENCE</b>	Belief that a particular person, or group of people, are responsible for their negative experience in some way	
<b>Neighbours/ flatmates</b>	Belief that negative experiences are caused by flatmates or neighbours	His neighbours are against him [P24] His neighbour is watching him [P94] Flatmates drugged her up [P53] Possessions are being moved around her house, feels perhaps that one of the neighbours is moving the possessions but can't explain how [P46]
<b>Colleagues</b>	Belief that negative experiences are caused by colleagues	His colleagues are playing tricks on him [P19] His work colleagues are colluding with the police [P101] Work colleagues and manager were talking about her [P152] Colleagues are hiding in her house [P139]
<b>Authorities, police or government organisations</b>	Belief that negative experiences are caused by authorities, including the police, government or other governmental organisation	His mobile phone was 'bugged by the feds' [P91] He is being followed by the FBI [P100] A police car and motorbike were following her on the motorway [P130] Housing officer is trying to kill her [P138]

<b>Mental health staff</b>	Belief that negative experiences are caused by mental health staff	Ward staff were "from the devil" [P36] Doctors are trying to 'manipulate' him [P83] Nurses wanted to hurt her [P58] Doctors were watching her on CCTV cameras and laughing at her [P61]
<b>Devil/ demon/ spirit</b>	Belief that negative experiences are caused by a devil, demon or evil spirit	God and the Devil are experimenting on him [P9] The Devil has cursed him [P11] Controlled by the devil [P45]; Demons are out there to hurt her [P137]
<b>Family</b>	Belief that negative experiences are caused by family members	Being watched by his family [P4] Family are trying to poison him [P14] Family will harm her [P65] Her family are involved in a conspiracy against her [P130]
<b>Parents</b>	Belief that negative experiences are caused by a parent, parents or step-parent	His mother does juju on him [P10]; Parents are against him [P98] Parents are laughing at her [P77] Her step-father killed her mother [P141]
<b>Partner/ ex-partner</b>	Belief that negative experiences are caused by a partner or ex-partner	His wife is cheating on him [P24] Ex-girlfriend is stalking him [P84] Her ex-husband has possessed her [P64] Her husband is abusing her daughter [P78]
<b>Friends</b>	Belief that negative experiences are caused by a friend or group of friends	Friend has been doing weird things to his face [P14] His friend is going to kill him [P94] Voice told her that her friends were talking about her [P127] Husband and friends are spying on her [P160]
<b>Miscellaneous</b>	Belief that negative experience is caused by another specified person or group of people	Some Asian people stitched him up because he was making a lot of money from his music [P10] People on the ward are trying to harm him [P21] People at school want to do something to her [P77] The Russian mafia and the Japanese are trying to kill her [P160]
<b>RELIGIOUS</b>	Belief that they are a religious figure, are in communication with religious figures, or are part of a religious or divine mission	
<b>Demons/ devil/ evil spirit</b>	Belief centres on demons, the devil or other forms of evil spirit	Demons communicate to him through animals such as when dogs are barking [P7] He has a demon inside him [P85] Being attacked by the devil [P45] The devil possesses her 6 week old daughter [P135]
<b>Prophecy</b>	Belief that they are a prophet or new born Jesus	He had been chosen as "The new Jesus" by God and that he "could see the whole world" [P27] He is the "second coming" [P113] She is turning into Jesus [P146] She is a prophet of God [P153]

<b>Divine mission</b>	Belief that they have a higher purpose or divine mission which they must carry out	Needs to carry out a "Divinely-inspired mission" [P30] His mission is to spread the word of God [P37]; He needs to "save the world" and "convert the people" [P113] She is on earth to sort out the world [P63]
<b>In communication with God</b>	Belief that they are in communication with God	He is communicating with God [P8] He is the only one capable of receiving "messages" from "God" or the "supernatural" [P94] She is the messenger of God [P45] Receiving messages from God [P131]
<b>RECEIVING MESSAGES OR SIGNS</b>	Belief that they are receiving messages, signs or instructions from other people or media or are involved in things that they see in the media	
<b>Signs/connections</b>	Belief that things observed are hidden signs for them, or that things they see can be connected to make meaning	Knew he was being monitored as he would see signs on Snapchat and other social media [P88] Seeing his father's name 'George' in papers or the actor 'George Clooney' at a movie premier could be a sign that his father is going to pass away soon [P105] People's voices are messages intended for her [P47] Making connections between things such as the lights in her nan's house being like heaven and angels [P126]
<b>Messages</b>	Belief that things seen or heard on television, radio, social media or music are directed at them or can be understood as messages to them	Receiving messages through the TV [P7] Facebook statuses, comments and likes were aimed directly at him [P109] TV sending her messages [P62] People on the television has been sending her messages [P131]
<b>SUCCESSFUL/ POWERFUL/ IMPORTANT</b>	Belief that they are excessively powerful, successful or important	
<b>Successful/ powerful/ important (non-specific)</b>	Belief that they are excessively powerful, successful or important	He is going to the moon on the next mission [P37] He has a raw talent and he can "achieve anything" [P90] He can rule the world [P93] She could walk into Vivienne Westwood design and work there [P149]

<b>Achievement/ wealth</b>	Belief that they have achieved impressive things, are capable of significant achievement, have acquired significant wealth or have access to large amounts of money	He has lots of money which he has made as a UK rapper [P10] He read all religious books in the world when he was age eleven [P37] She is a best-selling author of Lithuanian literature in Canada and USA [P140] She and her father established a university in Essex [P149]
<b>Position of power/ influence</b>	Belief that they are in a powerful or important position or have a connection to people in positions of power or celebrity	He is the right-hand man of Theresa May [P40] He is a scientist at TESLA [P107] She is the mayor of Dagenham [P41] Communicates with Mark Zuckerberg [P149]
<b>Connection to royalty</b>	Belief that they are, or need to be, connected to Royalty	His mother lives in Buckingham palace [P40] He has an appointment with the Queen [P93] She is the wife of the King [P41] She needs to go to Buckingham Palace and see the Queen [P147]
<b>SPECIAL POWERS OR ABILITIES</b>	Belief that they have special powers, abilities or strength including special healing, sensory, decoding abilities	
<b>Special powers or abilities (non- specific)</b>	Belief that they have special powers, abilities or strength including special healing, sensory, decoding abilities	Has special de-coding power that mean he can unlock numbers on the TV that will reveal a major international secret and that he will need to be killed before he can do that [P4] Could make himself invisible on the spot if he wanted to [P10] Able to heal people with her healing powers by touching them [P42] He has a lot of powers to control people and the political world [P93]
<b>Telepathy or advanced communication/ understanding</b>	Belief that they are able to communicate or understand others telepathically or non-verbally	He is special as he can read people and knows what they're about [P19] Talked to children through his thoughts [P7] She has a sixth sense which leads her to feel things about people [P121] She can read the minds of her brother, mother, sister, Cristiano Ronaldo and Queen Elizabeth, Kate, William and Harry [P140]
<b>COMMANDING VOICE</b>	Hearing an internal or external voice, or group of voices, that others cannot which commands them to do, or not do, something	

<b>Commanding voice (non-specific)</b>	Hearing an internal or external voice, or group of voices, that others cannot which commands them to do, or not do, something	Voice told him to smash a window [P12] Voices telling him different things that he does not want to do [P22] Voices tell her to run away [P122] Voices telling her to do bad things [P77]
<b>Commanding to kill or harm self</b>	Hearing a voice commanding them to harm or kill themselves	Voice tells him to harm himself [P30] Voices tell him to kill himself [P89] Voices tell her to cut herself [P63] Voices telling her to throw herself under a train [P64]
<b>Commanding to kill or harm others</b>	Hearing a voice commanding them to harm or kill others	Voice asking him to sexually assault a lady when he was in Rochester [P7] Voices tell him to hurt other people [P28] Voices telling to kill her partner [P80] Voices tell her to harm her old friends [P151]
<b>DEROGATORY/ CRITICAL VOICE</b>	Hearing voices that others cannot making derogatory or critical comments	
<b>Derogatory/critical voice (non-specific)</b>	Hearing voices that others cannot making derogatory or critical comments	Voice making negative comments [P81] Male voice says demeaning things [P117] Voices talk about her badly [P44] Voices are critical of her [P137]
<b>Worthless/ unwanted/ unloved</b>	Voice tells them that they are worthless, unwanted or unloved	Voice says "You are not worth it, no one likes you" [P110] Voices tell him he is worthless [P108] Voices telling her "no one loves you" [P124] Voices saying "they don't want you there" [P125]
<b>Stupid</b>	Voice tells them that they are stupid	Voices say "you're thick" [P103] Child's voice that and calls her "stupid" [P80] Voices telling that she is stupid [P137] Voices telling her that she is useless [P151]
<b>Sexuality</b>	Voice comments on their sexuality or sexual experience	Voice calling him a whore [P12] Voices tell him he is a rapist [P89] Hearing the voices of several family members calling him a paedophile [P91] Voices have been calling him names such as child molester, gay, dog, black monkey [P39]
<b>Appearance</b>	Voice makes critical comments on their appearance	Voices talking about how I dress or about my work... [P81] Child's voice that calls her "fat " [P80] Voices call her ugly [P143] Voices are critical of how she looks [P144]
<b>Evil/ bad</b>	Voice tells them that they are evil or bad	Voice telling him he is bad [P35] Hearing someone calling him evil [P92] Male voice calling her "evil" [P64] Voices tell her that she is not a good person [P126]



<b>Actions</b>	Voice makes critical comments on their actions	Voices tell him things that he has done wrong [P102] Voices question his decisions [P38] Voices comment on things that she does e.g. 'that's rubbish' [P80] Voices criticise everything she is doing [P139]
<b>COMMENTARY</b>	Hearing a voice, or group of voices, commenting on their actions	His grandfather offers a running commentary of his actions [P4] Many voices performing running commentary [P103] Voices telling her off, making negative commentary about her [P47] Voices give a commentary on what she is doing [P153]
<b>WARNING/ THREATENING VOICES</b>	Hearing a voice, or group of voices, that make threats to them or give them warnings	
<b>Threatening/ warning voice (non-specific)</b>	Hearing a voice, or group of voices, that make threats to them or give them warnings	Voices threaten him [P104] Voices make personal threats to him [P22] Hears threatening voices [P41] Voices can be threatening [P47]
<b>Threat to harm them</b>	Voices make threats to harm them	Voices tell him they will hurt him [P117]; Voices telling her that they will kill her [P63] Hearing voices of people saying I am going to kill you [P70] Father's voice says to her that he will get her [P80]
<b>Threat to harm others</b>	Voices make threats to harm others	Voices told him that they (voices) will come for sisters [P117] Hearing voices of people saying "I am going to kill your family" [P70] Voices saying 'mum and dad are going to die' [P148] Voices say they will hurt people [P137]
<b>Threat related to voices</b>	Voices threaten against talking about the voices or threaten harm if they do not follow voices' commands	Voices tell him not to say anything about what he is experiencing to people as it would make the voices come back [P20] The green man would kill him if he did not do what he said [P32] Voice will tell him that he shouldn't talk about the voice else it will get worse [P99] Whenever he attends an appointment the voices threaten to give him a heart attack [P104]
<b>Warnings/ reminders</b>	Voices give warnings or reminders	Voice tells him 'there's something in your arm, they're after you' [P4] Voices tell him to protect mum including sometimes telling him to kill those that try to harm mum [P6] Voices tell her that her water has been poisoned [P64] Voice encourages her to not trust people [P125]
<b>A VOICE CALLING THEIR NAME</b>	Hearing a voice, or group of voices, calling their name	Hears people calling his name [P3] Voices calling him names [P23] Hears her name being called out [P77] Voice called her a "nickname" used in the past by her parents [P152]

<b>A POSITIVE VOICE</b>	Hearing a voice, or group of voices, they are positive, protective or reassuring	
<b>A positive voice (non-specific)</b>	Hearing a voice, or group of voices, they are positive, protective or reassuring	The friendly voice is a white male who looks like an angel with a long white robe, halo and wings [P6] Hearing a helpful voice since his childhood [P89] Voice can be comforting [P129] Sometimes voices say nice things about her [P149]
<b>Reassuring/encouraging</b>	Hearing a reassuring or encouraging voice	Friendly voice providing him with comfort and advice [P6] Hears his father's voice talking to him reassuringly telling him that everything is going to be alright [P20] Voices tell her to get well and recover, look after herself [P53] Voice of her grandfather is reassuring [P151]
<b>Protection from negative voices</b>	Positive voice offers protection from negative voices	Friendly voice helps to rein in the enemy voice, telling him not to listen to the enemy [P6] Voice of Roger stops him from doing what the other voices say [P108] Sixth voice is safer and tells her to do the opposite of the voices [P80] Good voices telling her not to listen to the bad voices [P70]
<b>VOICES TALKING TO EACH OTHER</b>	Hearing voices which talk to each other	
<b>Talking about them</b>	Hearing voices which talk about them	Hearing people talk about him at home [P84] Voices discuss him amongst themselves [P91] Voices discuss her [P73] Voices talking about her [P139]
<b>Talking/ arguing amongst themselves</b>	Hearing voices which talk or argue amongst themselves	Hearing an "angel and devil battling with each other" [P25] Voices have conversations between themselves [P102] Voices talking to each other [P144] Voices have a conversation with each other [P154]
<b>VOICES IN ANOTHER LANGUAGE</b>	Hearing a voice in different languages	Voices are in English, which doesn't make any sense to her as she is Portuguese [P47] Voices bullying in English, German, Somali and unintelligible language [P63] Figure speaks in a foreign language and she is unable to understand what he is saying [P144] Could not understand what the voice was saying as she believed that it was a foreign language [P152]

<b>SOURCE OF VOICE</b>	The source that the voice is coming from	
<b>Family</b>	Hearing the voice of a family member	Hears his late grandfather [P4] Hearing voice of his brother [P22] Voices are of her family who want her and her husband dead [P64] Voices which she recognises as her relatives [P70]
<b>Parent</b>	Hearing the voice of a parent or parents	Hears his mother's voice nagging at him [P100] Heard mother's voice [P24] Hearing her mother and father's voices [P75] Recognises voices of her mum and dad [P80]
<b>Friend/ partner</b>	Hearing the voice of a friend, partner or ex-partner	Hearing the voices of some of his old mates from college [P39] Voice of his friend Chris [P91] Voices which she recognises as her friends [P70] Voice of her boyfriend who died [P129]
<b>Celebrity/ fictional character</b>	Hearing the voice of a celebrity or fictional character	Voice of Roger [Moore] stops him from doing what the other voices say [P108] He has heard Teresa May's voice [P40] Voices of characters from Lord of the Rings [P11] Hearing St Jim who is a character from the musical American Idiot [P122]
<b>A named voice</b>	Hearing a voice which has a name or identity	Child voice is called Abigail [P80] Hearing a lady called Elizabeth from Wellington in New Zealand talking to him [P39] One voice of a posh person called Mr Charles who he does not know [P111] A man's voice she identified as Duncan [P158]
<b>God</b>	Hearing the voice of God	He can hear God [P17] Hears the voice of God [P37] Heard God's voice giving her instructions [P42] Hearing commands from God [P146]
<b>Miscellaneous</b>	Hearing the voice from miscellaneous identifiable sources	Hears voices of his neighbours [P20] Multiple voices of people he knows [P39] Can hear her pastor ask her questions and talk to her [P79] Hears voices of patients and staff members [P78]
<b>An unknown person</b>	Hearing the voice, or voices, of people unknown to them	Voice of an unfamiliar male [P7] Voices of two unknown people [P28] Male voice which she has never heard before [P52] One voice, does not recognise, cannot say if male or female [P64]
<b>HEARING NOISES</b>	Hearing noises that others cannot	
<b>Hearing noises (non-specific)</b>	Hearing noises that others cannot	Hears footsteps up the stairs [P115] Hearing the sound of music playing backwards in a "demon way" [P29] Hears people singing Happy Birthday [P78] Hearing a dog bark loudly [P131]

<b>Inanimate noises</b>	Hearing noises from inanimate sources that others cannot	Hears tap dripping [P115] Hearing a buzzing sound [P45] Hearing toilets flushing [P60] Hearing beeping sounds [P60]
<b>Crying/ screaming</b>	Hearing crying or screaming that others cannot	Hears babies crying [P1] Hearing the scream of a man [P99] Can hear her mother crying [P75] Voice screams at her [P80]
<b>Whispering/ mumbling</b>	Hearing a whispering or mumbling voice or group of voices	Whispering noises [P4] A whispering in his ear [P113] Someone is whispering in her ears [P152] Hears a whispering menacing voice [P44]
<b>Laughter</b>	Hearing laughter, or the voice is laughing at them	Hears children's laughter [P110] Male voice laughing at her [P50] Voices are laughing at her [P69] Hears people laughing [P78]
<b>TACTILE HALLUCINATIONS</b>	Feeling things that are not there	
<b>Animals/ insects</b>	Feeling of animals or insects on skin or inside body	Feels bugs crawling under his skin [P14] Experiencing crawling sensation on his skin [P90] Something was crawling down her legs and inside her body [P131] Feeling maggots crawling under her skin [P144]
<b>Being touched</b>	Feeling someone or something touching them	Feel as if someone was touching him in bed [P102] Feelings of people tickling her [P63] Felt someone touching her [P126] Feeling of others touching her (tapping on her shoulder) [P157]
<b>Vibrations/ itching/ burning</b>	Feeling of vibrations, itching, burning or pins and needles over the skin or in the body	Burning sensation over body [P38] Feels vibrations and tingling down his spine whilst at home [P104] Feels pins and needles [P41] A burning sensation all over her body [P123]
<b>FEELING A PRESENCE/ SPIRIT</b>	Belief or sense of a presence, spirit or ghost around them	There is a presence behind him [P116] Feels someone is there [P72] Feeling a presence in her room at night, as though someone was watching her [P52] There is a spirit/ghost in her home [P123]
<b>VISUAL HALLUCINATIONS</b>	Seeing things that others cannot see	
<b>Visual hallucinations (non-specific)</b>	Seeing things that others cannot see	Sees images of people on computer screen [P1] Sees gaps in the wall [P39] Seeing ghosts [P64] Sees things in peripheral visions [P122]
<b>People or faces</b>	Seeing images of people or faces that are known and not known to them	Seeing faces [P4] Seen a girl looking through the fish tank [P25] Seeing people in her house [P62] Sees an evil old lady in the church windows [P49]

<b>Family members</b>	Seeing images of family members, both living and deceased	Saw face of his [deceased] grandad on the wall [P4] Seen a figure that looks like his mum [P108] Sees his late mother and late grandmother talking to him [P120] Sees spirits of her nan and a cat [P75]
<b>Shadows or figures</b>	Seeing images of shadows or figures	Dark figures in his peripheral vision [P4] Seeing dark shadows [P100] Sees shadows of people behind her or moving past her [P54] Seeing a "shadowy figure" in her bedroom [P148]
<b>Religious figures</b>	Seeing images of religious figures	Sees the figure of Lord Shiva in the flame of his mother's Hindu ritualistic lamps [P8] Seeing angels [P97] Visions of the devil [P75] Sees a "wicked King of the underworld" [P41]
<b>Animals</b>	Seeing animals, insects, birds etc that others cannot	Seeing a bird flying [P8] See snakes around the toilet [P114] Seeing spiders in the house [P90] Seeing animals outside including "a big fox" [P60]
<b>Distorted images</b>	Seeing objects or people become distorted or changed	Images of objects which become warped [P4] Seeing words moving around on school board [P25] Seeing words being replaced with bad words when she is reading a book [P66] Saw her previous foster carer's face in a male she was talking to [P127]
<b>Lights/ shapes/ colours</b>	Seeing lights, shapes or colours that others cannot	Seeing flashing lights [P100] Sees stars [P39] Can see colours [P42] Sees sparkling lights in the day time [P63]
<b>Death/ blood</b>	Seeing images associated with death including bodies and blood	Sees dead things [P75] Seeing "blood coming out of the walls" [P144] Images of blood in the shower [P151] Sees dead bodies in cars that drive past [P154]
<b>ALTERED TASTE OR SMELL</b>	Taste or smell is altered in some way	Food and drink taste funny [P4] There is sometimes an unusually sweet taste when she eats chicken [P154] Has been smelling a gas in her flat [P62] Smells a dog in her home [P159]